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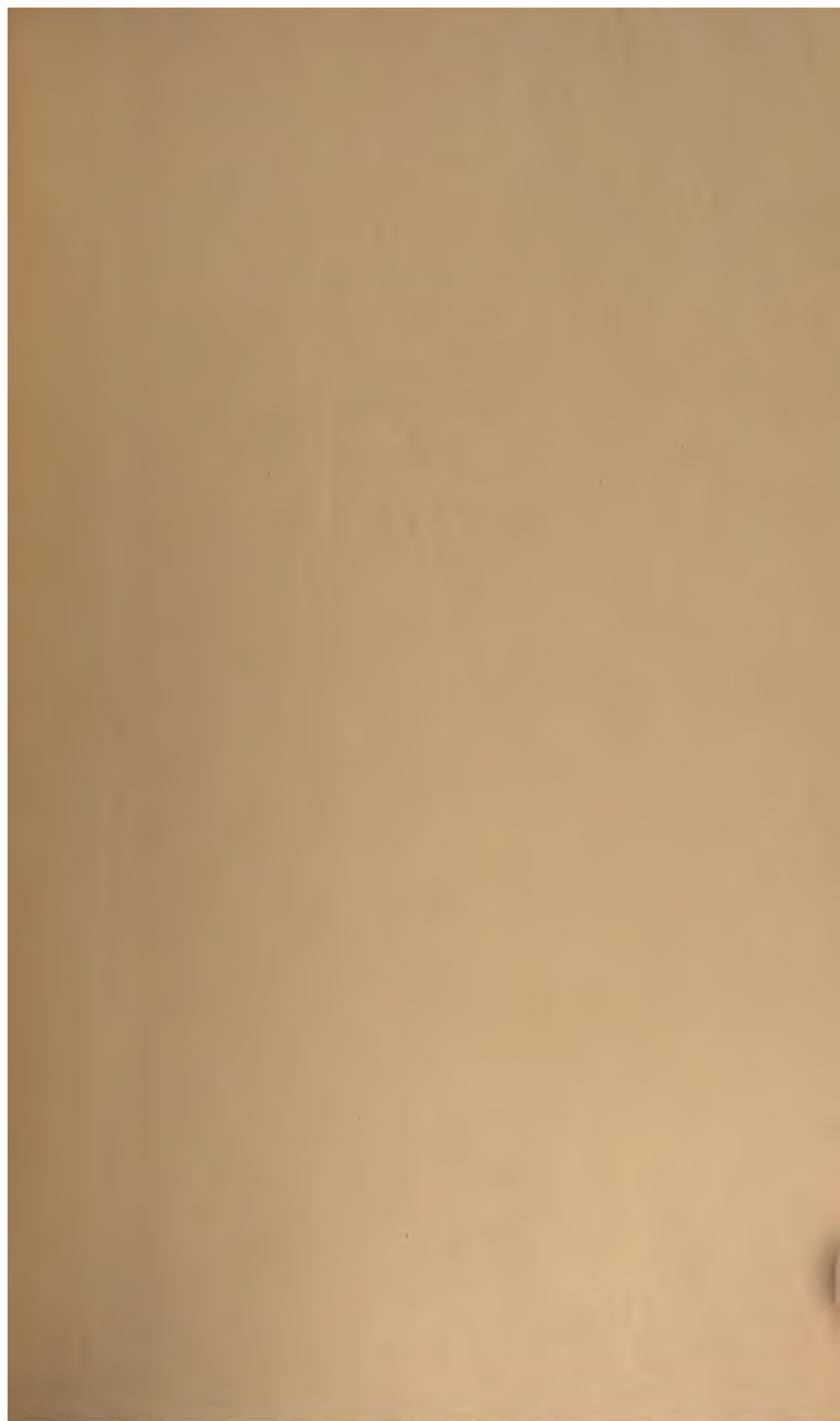
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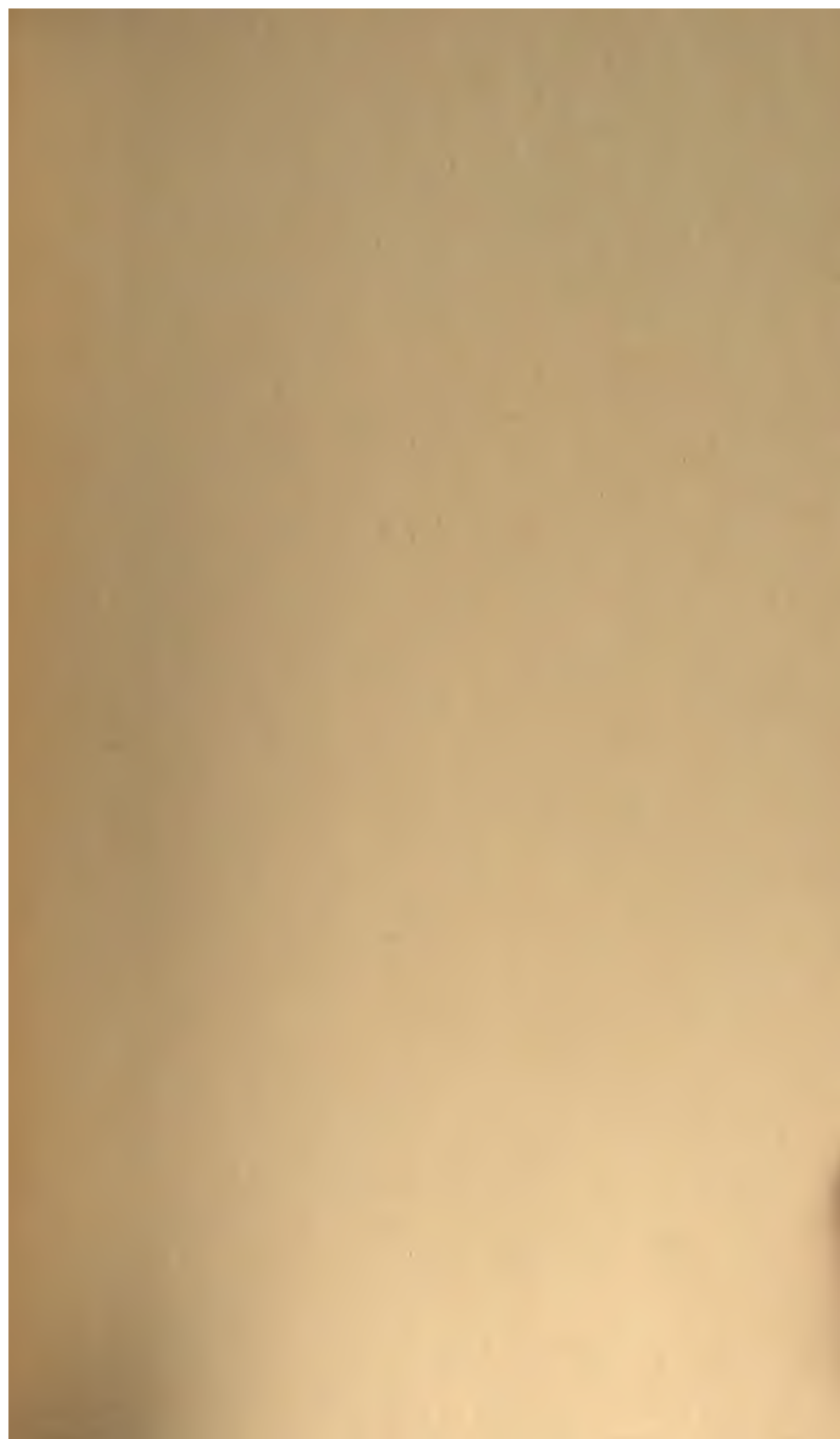


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THE
American Antiquarian
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Oriental Journal

VOLUME XXVI.

JANUARY-NOVEMBER, 1904.

REV. STEPHEN D. PEET, PH. D., EDITOR.

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No. 1

THE TREE OF LIFE AMONG ALL NATIONS.

BY STEPHEN D. PEET, PH. D.

There were two trees in the Garden of Eden, one of which was called the "Tree of Life," and the other, the "Tree of Good and Evil. The Tree of Life was evidently the symbol of the presence of God, and was equivalent to what is called the *Shekinah*. There is no particular description given of it in *Genesis*, but elsewhere in the Bible it is described as full of light. The brightness which pervaded it, extended beyond it and made it a place of glory. The Tree of Knowledge of Good and Evil was apparently an ordinary tree which bore fruit. It matters not what kind of fruit it bore, but it was such that the first pair could eat it and find it pleasant to the taste.

The two trees were in great contrast; the first was regarded as a source of life and an embodiment of a divine person and presence; the other tree proved to be a symbol of death, and it was dangerous to partake of its fruit. It proved to be a source of great calamity, for the first pair were at once filled with a sense of shame and realized that they were naked; they were filled with a sense of guilt and were afraid of the Being who had placed them in the Garden and given them liberty to partake of all the trees, except the single one. They heard the voice of God walking in the Garden, and were afraid and fled from his presence. They were banished from Eden, and cherubim with flaming swords were placed in the gateway.

The story is an interesting one and represents the first state of man, as one of innocence and purity. Conscience was undisturbed; nakedness was without shame; innocence was in the heart of the first pair; purity was in their life. They were like children, who have not felt the sense of shame, and who trust their parents, and who think of God without fear. They seem to have dwelt in peace with the animals, and were even permitted to give them names; but after partaking of the forbidden fruit they realized their guilt and felt that God was justified in banishing them from his presence. Nothing is said in the first or second chapters about Redemption or Restoration; but, on the other hand, banishment from Eden soon bore its

fruits. They had no children in Eden, but after their banishment, two children were born, Cain and Abel. The one represented evil passions, and the carrying out of selfish desires under the control of passion; the other represented innocence, as he was full of reverence and free from passion, but suffered death at the hand of his brother. Greater guilt came upon the human race because of this deed, and the descendants of the first pair were soon scattered. The children of God and the daughters of men were separated. Cain bore the mark of his guilt upon his face, but he was protected from the avenger by it. He went out and built a city.

From this time there arose two classes: those who dwelt in the fields and were shepherds and herdsmen, who lived by cultivating the soil; the other dwelt in the walled towns and became subject to authority. Marriage, however, took place between the two classes, and the sway of evil increased—there was violence and crime, and as a result God destroyed the world with a flood. The story conveys a most valuable lesson, in reference to the consequence of disobedience and yielding to temptation. The result was that those who were obedient and served God were saved in the ark, but those who were disobedient were overthrown and perished in the Flood. The altar was erected upon the summit of the mountains, the rain bow spanned the sky, and there was salvation amid destruction.

The narrative does not end here, for history is supposed to have begun when Noah and his family began to repeople the earth. The prehistoric condition of man is, however, hinted at by the Scripture narrative, though, perhaps, in somewhat figurative language. The picture is one which reminds us of the Arcadia of the Greeks, and is suggestive of the Golden Age. Other nations and tribes have traditions of the Flood, and of the survival of the first parents by means of an ark, which, in some respects, reminds us of the story of Noah and the Ark. The majority of the myths and symbols contained in this and other continents are suggestive of the Flood and the survival of the first parents from the Flood, but there is no myth which contains so much that is fundamental and so suggestive of the real truth as does this story.

It seems remarkable that the first few chapters in the Bible should contain so much of that system of religion which we have inherited from our fathers, and that we should find so much contrast between this system and the mythologies which prevailed among the various nations of the earth. The personality of God; the disobedience which resulted in banishment; the beginning of sacrifice and the erection of altars; the separation of men into two classes—obedient and disobedient, are points which we have inherited from our fathers, and come from this part of the Bible. Other races and peoples have traditions of the Flood and the survival of the few and the repeopleing of the world, but all that part of the nar-

rative which refers to the banishment from Eden, the sacrifice of innocence and the trial for the guilty, and the violence and corruption which followed, is either absent from mythology, or is referred to in the most general terms, under the story of the war of the Titans.

The narrative is suggestive of principles which we have been taught from our childhood, but which are only dimly apprehended by heathen nations. This, however, is not the point which we are to discuss at present, for the archæologist is not supposed to settle the questions upon sociology or moral science; but is to investigate the facts as to material objects which have been preserved. The question is whether there is any evidence that there was such a thing as the Tree of Life,



STANDING STONES AT STONEHENGE.

and whether that symbol has been perpetuated. The answer comes to us from various sources, made forcible by the various recent discoveries at Knossos and other localities.

Mr. Arthur Evans discovered at Knossos a miniature sanctuary including a pillared shrine and an altar, with horns and a portable seat for the divinity. He says that the Epiphanies and visions of Divine presence by means of trees were the most familiar of Old Testament revelations.

The account in Genesis gives to us a view of a primitive state of society, but it has been confirmed by the discoveries made in the East.

1. We find that the garden was surrounded by four rivers, showing that the number four was sacred at the time, exactly as it is among all primitive people. The region near the mouth

of the Tigris has been called a paradise on account of its fertility and beauty. The four rivers have been identified.

2. We find that the tree was regarded as a symbol of life, and was very suggestive, exactly as it is among all primitive races; the symbol of the tree being everywhere common.

3. The cherubim which were placed at the entrance to the garden, are supposed to be winged creatures. It is probable that reminders of them were perpetuated in the winged figures, which were so common in Babylonia at an early date. We know that winged figures are common among rude tribes at the present time, and are very significant.*

4. The altar was common at an early date, and is found among the primitive races of the earth. This is very significant. It appears that the Mound-Builders of the Ohio Valley had altars, and at the time of great stress, when beset by enemies, they placed upon those altars the most precious of their gifts, in the shape of carved pipes, sculptured articles, pearl beads, specimens of obsidian and many other articles. Altars were as common in Central America as they were in Babylonia. Human sacrifices were offered on the altars of Mexico, and the pyramids were often covered with processions, which marched to the summit with their captives. The story of the two brothers is found among many of the civilized tribes of this continent. One of these stories has been interpreted as referring to the contest between light and darkness, the dawn and the day; but it is universal and varied in its character.

5. Another point which is important to the mythologist, is the one which is suggested by the story of the two brothers and the division of the human family into two classes. This is dimly hinted at, as we have said, in the Greek story in reference to the war of the Titans. We find this story prevalent among all the Indo-Europeans—whether in Asia, Africa or Europe. There is a suggestion of the same contest in the American mythology, for here the story is told of a contest between the two brothers; one of which slew the other, and left his bones scattered along the banks of the rivers and in the streams, which can be seen at the present time. The same story seems to be repeated in the contest between the two divinities of the Aztecs—Quetzalcoatl, the Fair God, and Tescatlipoca, the god of War and of Death. The same story of the contest is repeated by the tribes of the far West, but it is connected with the story of the Flood.

6. The most remarkable fact is that the tree and the cross have always been associated together, the one merging into the

* Prof. Haupt thinks that the cherubim should be considered as beings with serpent forms, which typified the lightning, and corresponds to the erect serpent (Uraei) found in the decoration of both Babylonian and Egyptian temples. The cherubim represented the winds, and as the wind fertilizes the female flowers of the palm tree, by bringing to them the pollen of the male, it was natural that the Assyrian cherubs should be frequently represented as engaged in the fructification of palm flowers. (See Proceedings of Soc. Bib. Arch. page 562, Nov. 1899.)

other, so that it is difficult at times to separate them; but they have always been perpetuated by mythology and preserved in the sacred rites, so that if we were to make one symbol more prominent than another, it would be this. The same significance has been given to it from the beginning, and it is still the most important object in the symbolism of the world. This is the point which we are to bring out at this time. We maintain that the study of symbolism proves that the narrative correctly describes things and events which occurred at a very early time.

I. The Tree of Life was used as a symbol at a very early period, and was perpetuated by the religious customs of the different nations throughout all generations. This was certainly the case among the Babylonians. We do not need to dwell upon this point, for every one knows that the symbol of the tree is to be found upon the walls of the temple of Babylonia, and seems to have been a most suggestive object.

This figure was not peculiar to Babylonia, for, with variations, it prevailed among the other races of the East. As there presented, it is the palm tree, but with branches spread on either side and a vine running about it, connecting the branches. A priest stands on either side, with the pine cone in his hand. Mr. E. G. Tylor has given a very plausible interpretation of this. It is, that the priest was extending the cone to the pine tree, and so fertilizing it and making it an emblem of life. It may be said here that similar figures are common throughout the East to this day, and they are all significant of life.

There was a change in the symbol among some of the tribes and races, for a standing stone was used as a substitute for the tree. When a stone took the place of the tree as a symbol, we cannot tell, but it seems to have been very early, for we find in the Book of Genesis a story that reminds us of this fact. The Patriarch Jacob went out from his father's home after he had received his blessing, having deprived his brother of the birth-right. He lay down to sleep in a lonely place, taking the stone for his pillow. During the night, or early in the morning, at dawn, while surrounded by the mountains, he had, what might be called a "waking dream," in which he saw a ladder or stairway leading up to the summit of the mountains, and a vision of God on the summit; angels were ascending and descending on the stairway. When he awoke, he took a stone, which had been used as a pillow and set it up as a pillar, which should become a shrine and an emblem of God's presence. It was to serve the same purpose as the Tree of Life did to Adam, and became afterward the sanctuary where God was supposed to dwell. It is very significant that the standing stones are very common throughout the Holy Land, and they are monuments which survived throughout all antiquity. The recent explorations at Gezer, the ancient Gath, has brought to light a

number of these standing stones. In fact, a circle of standing stones has been discovered which resembles those found in North Africa, Scandinavia and elsewhere. They may have been set up by the Phœnicians, the Hittites, or by some unknown people, but they mark the place of an ancient open air temple, as the place of worship.* There were many such circles in Great Britain. The best examples of these are found at Stonehenge and at Avebury. At Avebury there are two circles confined within a larger circle—a ditch and a stone wall outside these. At Stonehenge there were several circles, with one formed by a series of triliths; inside this, a series of circles of small stones; inside this, a horseshoe circle; inside this, a flat stone, called the altar stone. There is an earth circle and a ditch outside these, also an avenue of standing stones, one leading to the northeast, and a standing stone called the "Friar's Heel" inside the avenue. The supposition is that the sun shone upon the stone during the summer solstice and

threw its shadow upon the altar, as if the divinity accepted the offerings made upon the altar.

That these were symbols, is shown from the fact that there were different kinds of stone used, some of which were brought from a great distance, showing there was a sacredness about the place. Whether



CIRCLE AT AVEBURY.

the standing stone represents the Tree of Life or not, it had at least a mission in connection with the sun worship which prevailed in this region, and became a symbol of the power of the sun which threw its shadow into the temple.

We may say of this temple, that it was connected with sun worship and was significant of the various powers of nature, celestial and terrestrial; many astronomical principles being embodied in it. Sacred colors were embodied in the stones. The entire arrangement of the temple was very significant, but the most important symbol of all, was the stone which cast its shadow into the horseshoe. The throwing of the light of the sun into the place of worship was significant, for it was supposed to impart life, as well as to accept sacrifice. The same thought was conveyed by the symbols which were common throughout the East, especially in India and Egypt.

Forbes Leslie, in his "Early Races of Scotland," points out that in the Deccan certain monolithic temples are still used for

*Dolmens surrounded by upright stones, or by a stone circle, were the prototypes of temples which were used as places of sacrifice. The tombs were also surrounded by circles, which served to protect them from desecration.

worship, in which the relative position agrees with those in Stonehenge; and Meadows Taylor maintains that rocks with circles around them are used as places of sacrifice by shepherds, the stones being about fourteen feet above the surface. The ring of Brogar seems to have been originally composed of sixty stones. It is surrounded by a trench, with a diameter of 360 feet.

The shape of the horseshoe has been regarded as a peculiar symbol of life. It is suggestive of the reproductive power; exactly as the single standing stone is. Some have supposed that the symbol of the cosmogonic egg surrounded by the serpent was embodied in this sacred temple, and that the features of the Hindoo worship had been transmitted to this region.

The conventional symbol which represents the life and the reproductive powers, is made up of a pillar inside of an oval. In India this is the "Lingam in Yoni." In Egypt, however, the Nile key is formed by an upright and crossbar, the ring or circle and the staff being united. The Nile key was sometimes humanized, furnished with arms, and finally with legs, and became human. The sphinx is rarely associated with the sacred tree, or column, but wild goats and deer and other animals are. Still there is a parallelism between the tree pillar, with its heraldic supporters, and the column supported by lions. The altar was coupled with the Asherah, but the tree became perverted to base purposes, and the Asherah became the symbol of lust.

The obelisk was a symbol of the sun, equivalent to the shaft which was to receive the light of the sun. It served the same purpose in Egypt, that the standing stone did elsewhere. It is really a symbol of life, rather than of death.

We have seen that the pillar at the Lions Gate at Mycenæ was a symbol of life, as well as of royalty, as it had the same form as that seen over the palaces. The Phœnicians also had a sacred pillar between heraldically opposed animals. It is to be noted further that trees and pillars, guarded by heraldic animals, are as widely distributed as are the architectural columns; yet they have a symbolical or religious mission, rather than architectural. The animals which are associated with the columns, generally placed at the summit, are to be regarded both as symbols and as ornaments. They are arranged in pairs on either side of the capitals, just as the lions are upon either side of the columns. This bi-lateral, or quadrilateral arrangement of the animals on either side of the column was almost universal. We find it in the English unicorn, and the Russian coat of arms, in which eagles take the place of the lions. They are used as symbols of royalty in both cases. In Babylonia the lions guard the doorways and gateways, but are placed on either side, with a passageway between them. Whereas in Persia and Greece they are placed over the doorways and have nothing between them but the column. In this respect, the

lion served the same office in Babylonia that the sphinx does in Egypt. They are made to guard the entrances to palaces, pyramids and temples, but in Persia and Greece they are placed in front of tombs. It is to be supposed that the pillar and the tree, as well as the human image, were designed as a symbol



FIG. e. Capital of the Temple of Athena at Priene.



FIG. f. Archaic Vase of Athens.



FIG. g. Bas-relief of the Captivity of Cleidæa.



FIG. h. Bas-relief of Esharh.

COATS OF ARMS OF DIFFERENT NATIONS.

abode among the oaks of Dodona, so that the cult of trees and pillars began in the cave and in the grove at a very early date and ran parallel courses.

The tree in the Garden of Eden was the symbol of Divine presence, and so was the stone column and the obelisk. It is a remarkable fact that there is an obelisk and an altar and a circle closely associated together upon the summit of the rock in the wilderness near Mount Hor and just above the old city of Petra. This has been described by Prof. Robertson, and is supposed to be a symbol. In Egypt there were two pillars or obelisks—often-times associated together—also before the temple of Solomon. They were given different names which were supposed to be significant. Whether the obelisk was a symbol of life, and was a substitute for the Tree of Life, is a question.

The pillar is found upon the tombs of Persia, guarded upon either side by a lion. It resembles the pillar and lions over the



FIG. a. Bas-relief of Nineveh.



FIG. b. From a Phœnician Bowl.



FIG. c. From a Persian Cylinder.



FIG. d. From a Sassanian Bowl.

COATS OF ARMS OF DIFFERENT NATIONS.

gateway at Mycenæ, but generally tapers from the bottom to the top, rather than from top to bottom, and has the capital and base. Being placed over the tomb, it seems to have served the same purpose as the tree, which was a symbol of life, rather than of death. This symbol has survived until quite modern times, but has become a symbol of authority rather than of life, for the English coat of arms has a column or tree, with a unicorn on one side and a lion on the other; the Russian coat of arms has the eagle upon either side and the column in the center; the coat of arms in Sumatra has the shield in the center, the serpent upon either side, and the tiger below the serpent.

This story of the tree was probably borrowed from the Hebrews, but was adapted to the new surroundings in Norseland, but it retained the same significance. There is no mention of the churning of the sea, nor using the mountains as a fire-drill; the serpent is not used as a rope, nor is the effect to produce either fire or water, or the heavenly drink, the divine soma. These belong to the Greek and Hindoo mythology, but the ash tree is the Tree of Life.

A common story among the Teutons relating to the earth, was that the giant was sleeping, his glove was by his side. The God Thor found refuge in the glove or mitten, and thought it was a great cave. He heard the giant snoring, the sound alarmed him, but he sallied out, finally found the giant, and struck him with his hammer three times, and at last awoke him. His eyes opened, and he saw it was the sleeping earth he had struck and the blows had caused three great valleys in the earth. The sky was like the skull of a giant. It was supported by four dwarfs, who stood on either corner.

The circle was also a symbol in Scandinavia. The tree shot up its branches toward the sky. Around the tree, midway between the branches and the root was a serpent, which formed a circle, with its tail in its mouth. This represents the sea which surrounds the land. Outside the serpent was a range of mountains which formed the border of the horizon. There were three roots to the tree. Now, this Tree of Life was the cosmic symbol for the Scandinavians. It was evidently borrowed from the Hindoos, but modified.

The symbols of the circle are scattered all over the globe, and are always very similar. At Stonehenge, it consisted of the double circle of standing stones, which symbolized the earth with its horizon, exactly as the double circle did around Igdrasil, the Tree of Life. There were double circles formed by standing stones at Gezer in Palestine; various localities of North Africa; in India, and in South America.

In South America they served as sun dials. In Great Britain they served as temples to the sun. In North Africa, as places of sacrifice. It is very singular that these cosmic symbols should be so wide-spread, and should be so similar in their character, and especially in their significance. The idea that

life was perpetuated by the union of the male and female, was, of course, a common one and was universal, but that it should be connected so closely with religion and embodied in the temples and places of sacrifice is to us astonishing.

II. The Tree of Life is very common in America, and in many respects resembles the one described in the Scriptures.

This is illustrated, not only by the so-called rude architectural works, such as earth and stone circles, platforms and sun dials, but by various relics which have been discovered here and there, in America as well as in India. These relics have been studied by those who have a penchant in that way, and compared with the symbols which are prevalent in China, India and elsewhere. It certainly seems at times that the phallic symbols were thoroughly distributed on this continent, and that they had the same significance as in India. Be this as it may, we are confident that the *suastika*, or hooked cross, was a wide-spread symbol on this continent, and had much the same significance as in the Old World. It may have represented the whirling sky, and in this manner symbolized the life of the universe. The humanized tree is, however, the most remarkable and suggestive, for it reminds us of the Tree of Life



HUMANIZED TREE.

as represented by the Babylonians. In one tablet, the arms are represented as branches, the hands as twigs, the legs are turned up beside the tree, and resemble the arms. The hair resembles the foliage, and the eyes the fruit in the tree. This tablet was found in a mound in Cincinnati. The cosmic symbol is also very wide-spread. In this symbol the *suastika* serves an important mission. Mrs. Nuttall has written concerning this. It embraces the cosmogonical traditions,

liturgies, and incantations; all of which seem to be connected with the constellations of the North.

It would seem as if there must have been secret societies, or orders, through which these symbols were transmitted, and the ritual of which was a means of conveying religious thought which served the same purpose as the Eleusinian mysteries.

The Tree of Life was very common in America. It was found among the Osages supporting four upper worlds, with the constellations and stars above it, the sun and moon and the Pleiades. It was prominent among the Ojibwas, and appeared in the four different lodges of the Medewiwin Society. It was also prevalent among the Navajos, and was prominent in their sand paintings. Here, it was surmounted by the humanized rainbow, and had the form of the suastika with gods and goddesses upon the arms.

The Popol Vuh contains a number of creation myths. This is the Bible of the Quich s. According to this, there was at the beginning nothing visible but water and the feathered serpent, but there also existed those who "gave life." They said, "Earth," and there was earth, and plants grew upon it. Animals followed the plants; but there were several creations for man. The first man was shaped, but he did not look up. The givers of life said, "Speak our names," but all the men could do was to cluck and croak. The givers of life destroyed these, and made men out of clay. These men were weak and watery, and they destroyed them. Next, there were men made out of wood, and women made out of the pith of trees. These creatures married and had children, but they were manikins—wooden creatures. They were destroyed. A few developed into apes. Next came a period occupied by supernatural creatures, who were like the Titans. They upset the hills and accomplished great feats. Last of all, men were made out of corn. These survived and became the progenitors of the tribes. In Peru there was a period of savagery. The savages sprung from all manner of natural objects; chiefly from birds and animals. Magic and totemism prevailed. The people survived their totemic ancestors, but they permitted themselves to be eaten by their totems.

The Aztecs had a series of four creations, or four destructions. First, the water age, ending in a deluge; second, an earth age, ending in an earthquake; third, a wind age, ending in a hurricane, and fourth, the present age, which will end with an age of fire. These four ages are represented by the Calendar Stone. In the center we see the face of the sun, with protruding tongue, which was the emblem of life. Around this we see the four symbols. A tower, tottering to its fall, overthrown by the earthquake and the wind. The deluge is represented in the picture form. The Aztecs reached a high stage of civilization. How they came by this story of the deluge is a mystery.

The sacred books of the Mayas contain codices, which are made up of pictographs and hieroglyphics. They have been studied by various scholars,—Mr. Forstemann, Mr. Seler and others in Germany, and by Prof. Cyrus Thomas, Dr. D. G. Brinton, Mr. Goodman, and Mr. Bowditch in this country. Dr. Brinton has explained the "Tableau des Bacabs" found in the Cortesian Codex, as follows:

"The design is surrounded by the signs of the twenty days, beyond which the field (not shown in the cut) is apportioned, to the four cardinal points and the deities and time cycles connected with them. The earth is not represented, but is regularly recognized in conventionalized form as the Great Tree of Life. Across it is the celestial vase, and above it the cloud masses. On the right sits Cuculcan, the master of life, and on the left, Xmucane, the great mother; the divine pair called in the Popol Vuh, 'the Creator,' 'the Former,' 'Grandfather,' and 'Grandmother' of the gods, who give life, who give reproduction.

"Xmucane has before her the symbol of union, and another symbol containing the life sign—the product of union, and these are surmounted by the head of a fish, signifying the fructifying and motherly waters.

Dr. Brinton says, "The scene of the creation of man, the terrestrial paradise, was known as *Huma hil*, and the name of the first man was Anum, to "stand erect." It was a common conception among the Mayas and among the Aztecs, that the first man was created before the Flood, but that there were four periods or epochs of the universe, at the close of which there was a general destruction of both gods and men. *The tree preceded the Flood and was the emblem of the Divinity.*

They had also a sacred year consisting of 260 days, and a secular year consisting of 360 days, with five inter-calary days. Their years were divided into twenty months, thirteen days in a month; also into eighteen months of twenty days each. There were charts which represented these time divisions. One of these had the shape of the Maltese cross. The tree was in each arm of the cross, and a human form clinging to the tree on either side, while a bird surmounted it. A border contained dots which represented the days. The tree rested on or grew out of certain symbols, each of which had a meaning. There were loops between the arms of the cross, with dots representing the 13 days in the week. The bird at the top, and the symbols at the bottom, as well as the two human figures represented the dualistic nature of their religion. (See cut.)

The following is Dr. Brinton's opinion: "The spirit of this religion was dualistic. The gods of life and light, of the sun and day, of the fertilizing showers and cultivated fields, being placed in contrast to those of misfortune and pain, of famine

and pestilence, of blight and night, darkness and death. Back of them all, the source of them all, was the *Humab Ka*, "the One Divine"; but of him no statue and no picture was made, for he was incorporeal and invisible.

"The growth of the plant and the pests that beset it and hinder the growth are dualistic. We see Itzamna, one of the chief Maya deities, planting the maize; we see also a bird picking up the planted seed before it is planted. In the next figure, we see a small fox picking it, after it has sprouted. In the division below, we see quadrupeds, birds and worms attacking it. This dualism is illustrated by the cut. In it we see the Tree of Life beset by birds, animals and men, and attacked



THE FOUR-FOLD TREE.

by lightning, but it continues to bloom through the 260 days of the sacred year.

"Itzamna was the chief of the beneficent gods. He was the personification of the east, the rising sun. His name means 'the dew of morning.' He was the spirit of the early mists and showers. He came in his magic skiff from the east, across the waters, and presided over that quarter of the world. He received the name, 'the Serpent of the East.' His name was synonymous with both life and knowledge. He was said to have been the creator of men, animals and plants, and was the culture hero and law-giver of the Mayas. He was the first priest of their religion. He invented writing and books.

"Cuculcan was regarded by the Mayas as a hero, a god, a deity of culture and kindness. He was the founder of the

great cities; was active in framing laws, and introduced the calendar. He was identified with the west. He was said to have come from the west, and to return thither. He is described as clothed in a long robe, wearing sandals, and as *having a beard*. He was the feathered or winged serpent, but was painted in the likeness of a man and snake; the snake with feathers, which moved in the waters. He was identified with the 'cloud serpent.' Itzamna was connected with the rising sun, and Cuculcan with the setting sun. But the meridian sun was distinguished from both of them. A consort was assigned to Itzamna, who was named the rainbow, the spider web, which catches the 'dew of the morning.' Her children were the 'Bacabs, or giants,' four mighty brethren, who were the gods of the four cardinal points and of the four winds and rains, and the harvest and food supply, and the thunder and lightning. Cuculcan was connected with the seventh day. To each Bacab was assigned a particular color and day in the calendar.

"The Mayan hieroglyphics represent the conflict between the two classes of deities, those who make for good, and those who make for evil, in the life of man. The gods of life and growth, plant the tree, death breaks it in twain. The god of death appears as the inevitable foil of the god of heaven and life. Where the god of light holds the string, the god of death tears it asunder. Where the former offers incense, the latter carries the sign of fire to consume it. Where the former presents the form of (sign *K'an*) food, the latter lifts an empty vase bearing the signs of drought and death; and in whatever action the god of light is depicted, the god of death imitates it, but in such a manner that all turns to naught and emptiness. Between these two classes of deities—those who make for good, and those who make for evil in the life of man—there is, in the myths and picture-writings, an eternal conflict.

"The good gods seem to be separated from the evil. They were the lord of the waters or rains, the lord of the harvest fields, the lord of the vase, virgin fire, patronness of infants, a hunting goddess, the virgin of first animals, the one who looks after the cooking fire, the master of dew, the master of cold, the god of the intoxicating mead, the god of the Cacao planters, called the 'black companion,' the goddess of precious stones and jade, the god of singing, the god of poetry, the goddess of painting, color designs and woven stuffs."

"The most striking of the representations is the green feathered serpent, which extends over the middle of the Dresden Codex. He is seen with his face emerging from the mouth of the great snake dragon, indicative of his own personality."

The symbol of a face emerging from the mouth of a dragon or snake is very common. It is seen on the façades of the temples and altars, as well as in the codices. A god, with an ornamented face, represents the north star, the pole star per-

sonified. This god surmounts the picture of the "Tree of Life," which appears in the constellation bands and has a ring of stars surrounding it, the constellations of the north star, the bear and the serpent having been as familiar to the Mayas, as to the Hindoos and nations of the East.

Dr. Brinton goes on to describe the divinities of the beneficent class: "One is the pole star, the north star, so interpreted because it is surrounded by rays. It is found in the constellation band, which surrounds certain pictures of the "Tree of Life." The figure is associated at times with all the four quarters of the world, because at night all figures are recognized by

the position of the pole and its immovable relation to the other celestial bodies.

"The north star is especially spoken of as the 'guide of merchants.' It is especially prominent in the early pages of the codices. He is seated on the Tree of Life, in the Codex Troanus, which is growing from the vase of the rains. He is known by the seated figure.

"In the Popol Vuh, the sacred book of the Quiches, the 'feathered serpent,' Gukumatz is said to be the bi-sexual principal of life, represented by the male



ONE OF FOUR TREES IN THE VATICAN CODEX.

Xpiyacoc, and the female Xmucane, ancestor and ancestress of all that is." * * *

"One of the most striking pictures in the codices is the Serpent Goddess, whose familiar is the rattlesnake, which she wears as a headdress or girdle. In expression she is severe. Her lips protrude in anger, and her hands and feet sometimes end in claws. The sinister cross bones decorate her skirts. Her business is with water and the rains. She is pouring it from a vase, or ejecting it from her mouth, or water is flowing from her arm-pits and hands. As to the signification of the Serpent Goddess, there can be no question, from a study of her associations and appearance, but that she was the personification of the thunder storm. The vase which she emptied, is the

descending torrent of rain. Her severe mein is the terror inspired by the din of the elements. The rattle she carries are the thunder claps. A third goddess can clearly be distinguished. She holds a distinct place in the Troano and Cortesian Codices. Her occupations are peaceable. She is weaving on her loom, carrying a plate of cakes. She is the female counterpart of Cuculcan, and represents his companion or wife. In the Tableau des Bacabs, the two are represented sitting under the central "Tree of Life," sitting back to back. She was the personification of the earth, the goddess of the rainbow, whose home was with him in the west, whom she soon joins.

"Next to Itzamna the god of life, the god of death is represented the most frequently. Its symbols are unmistakable."

There is a picture in the Cortesian Codex which represents four beneficent gods drawing their stores from cloud vases. Each one of these has a different headdress and a different face, but with the same shaped body. All of them symbolize the different operations of nature, but they are personifications which resembled the gods and goddesses of the Greeks, such as Minerva, the goddess of childbirth; Ceres, god of the fields; Artemis or Diana, goddess of the hunt, and Dionysus, god of wine. These gods and goddesses have separate names, and were represented by different colors, and a certain year and day in the calendar, is assigned to them. The red "bacab" was to the east; the white, to the north; the black, to the west; the yellow, to the south.

In the codices the celestial bodies, the revolutions of the sun and planets are represented just as in the Zodiacs of the Old World, by uncouth animals and by human images. Torches are in the hands of figures; one downward, and one upward, which indicate the setting of constellations. The god of time brings in the dead year. It is a part of the ceremonies. A wolf-headed figure represents time. The god arrives in a vase of the heavenly waters. In his left hand he holds the rattle; in his right, the magic wand, or magic staff, and the medicine bag. Around his waist, is a broad carrying band, in the loop of which is the dying year, *Kau*.

In another figure, the celebrant is holding a beheaded fowl in his right hand, while his left strews grain; before him is a haunch of venison and a turkey; above the latter, is the moon symbol and the number 15. To the left of these stands the statue of Mani, the grandfather; a tree folded in a robe and surmounted by the three branches. In front are seen the serpent's head, the sign of time; below this are foot prints, to indicate that time has gone; and beneath the form of the god, is the sign pax, with the meaning, "it is ended."

The lesson we learn from these facts, is that the same principles which were embodied in the two trees have been apprehended by all tribes and nations, and have been embodied in the religious symbols of nearly every land.

ROMAN DISCOVERIES IN GREAT BRITAIN.

BY JOSEPH OFFORD, LONDON, ENGLAND.

During 1901 and 1902 but few antiquarian discoveries relating to the Roman occupation of Britain were announced, though excavations at Silchester and a few other sites were carried on, and a large sculptured relief of a cavalry soldier, without any inscription, was accidentally found near Falkirk in Scotland.

To make up for the meagre harvest in the last two years, 1903 has proved almost a record in the value and amount of the archæological treasures of Roman times that have come to light.

Owing to engineering works connected with a new bridge at Newcastle-upon-Tyne large excavations have been made in the river, and these early resulted in the finding of two altars, whose inscriptions tell us they were erected in the time of the Emperor Hadrian, and that they are dedicated to Neptune and Oceanus; so probably the object for which they were provided was in grateful remembrance of a successfully accomplished voyage across the North Sea to Pons Ælū, or Newcastle.

Further light upon the matter may now be considered to be afforded by a most valuable and well-preserved Latin memorial inscription recently recovered from the same site. Although rescued from the bed of the Tyne the stone is a wall tablet of sandstone, 26 inches long, and nearly 19 inches wide, and 2 inches thick. It is so well preserved that the tool marks of the workmen are still visible, and the letters are perfectly distinct. A translation of the inscription was last August given at a meeting of the Newcastle Society of Antiquaries by Mr. R. O. Heslop, and remarks concerning it were added by Mr. F. J. Haverfield, one of the highest authorities upon Latin epigraphy in Great Britain. The version of the text approved at the meeting was as follows:

"To the Emperor, Antoninus Augustus Pius, Pater Patriæ: This work is done by; a vexillatis of the second legion styled the August: and of the sixth legion, the Victorius: and of the twentieth legion, the Valeria Victrix, with two contribute from Germani (or probably better, 'from the two Germanies'), under Julius Verus Augustan Legato and Propætor."

As to the date, Antoninus Pius was emperor from 138 to 165 A. D., so as far as his reign is concerned, we have a margin of more than a quarter of a century. The Imperial Legato Julius Verus was not otherwise known, or does not exist in selecting the correct time of the writing of the text. We know, however, that detachments of the very three legions here enumerated built, or superintended the building of, the

Antoninus Roman wall. It was divided into eleven sections, four being erected by the second, four by the sixth, and three by the twentieth legion. The Proprætor, however, who is known to have been in charge of their work on the *vallum* was Quintus Lollius Urbicus, and he was engaged upon it in A. D. 139 and 140.

Bearing in mind that the two altars dedicated to marine divinities may have been erected at the same time as this inscription, and that the text itself alludes to troops coming from Germany, we may suggest that the memorial was erected in the first year of Antoninus Pius, A. D. 138, when the vexillation of these legions had, perhaps, but recently crossed the North Sea and had not yet proceeded to labor on the wall. The legions in Britain we know were largely recruited in Germany, as were their auxiliary troops in Spain, Gaul and Flanders, and so it may be that these drafts or vexillatias arrived and were engaged at Newcastle in some work, whilst the main bodies were up north; therefore it may be of any date in Antoninus Pius' reign.

There is one inscription found in, or near, the Antoninus Wall, which connects together two of these legions; but there is also another, now in Paris, which does so in a very singular manner. This second text is preserved upon a bronze disk, and has the advantage of being an inscription with illustrations. At the top of the circular engraving is an eagle grasping a thunderbolt, the accredited symbol of Roman military power; on each side of it are two ensigns, guidons, such as so frequently appear on Roman legionary coins. These are in the form of a cross, with some ornament like a boss at the summit of the staff, or just above the cross bar, which bears a banner, or a coronet. Beneath the signa, or ensigns, are two files of soldiers, and the legions they represent are revealed to us by a minute text placed above each: as the Legio XX. Valeria Victrix, and Legio Secunda Augusta. That, should these letters become a little defaced, there should be no possible error, the crests, or heraldic symbols, of the legions are also appended; a goat for the II. Augusta, and a wild boar for the XX. Valeria Victrix. These legionary crests are well known from coins and sculptured monuments as being those of these legions.

The remaining illustrations on the disk, or boss, consists of a number of wild animals. The monument, therefore, is undoubtedly a prize for, or memorial of, some game, or military tournament in which these two legions took part. That, though now preserved in France, it probably originally came from Britain, or is a record of an event which took place upon the soil of Britain, is certain, because the legions remained and were connected together in that country until the Roman forces left it. Their long stay, however, necessarily renders it difficult to assign a date to the relic, but fortunately an approximate period can be suggested, because it bears a per-

son's name—Aurelius Servianus—and the soldiers are armed with oval shields.

The title "Aurelius" for a soldier or officer, naturally suggests a date subsequent to the second century, when owing to its having been an imperial name, it became fashionable. Again, up to the end of the third century, although cavalry used a round shield in Roman armies, the infantry were armed with the well-known square shield, called *scutum*. These warriors on the disk are foot-soldiers, and so it is improbable that they were drawn before the fourth century. Before leaving this part of the subject it may be mentioned that at a recent sale of antiquities in England, a French collector purchased what is certainly the upper part of one of these guidons of the Roman army. As a centre ornament it has a medallion of Nero, and so was probably lost by the Romans in the war with Boadiceia in A. D. 63.

The second most interesting series of Roman remains recently recovered in Great Britain have been unearthed at Brough, near Hope and Bradwell in Derbyshire. Here, the County Archæological Society are laying bare the remains of a Roman military station and its accompanying town. The explorations have proved the fort to be very extensive. The walls are of worked stone, and vary from five to eight feet in thickness, and are pierced at each corner by four gates. The circular walls of a huge tower have been discovered, probably a watch tower; at the base of it was a port room with lime-stone floor and lime ashes. In the centre of the edifice there are remains of walls of a large building, evidently the pretorium or judgment hall. A bath has been found, the descent into which is by a beautiful flight of steps, and remains of an inscription tell us that the bath was dedicated to an emperor. Near it a second century coin was found. The partially excavated pretorium is evidently larger than these buildings usually were in Britain, considering the size of the fortification of which it was the centre, but its full extent is not yet ascertained. It will, however, take several years to completely explore the site.

Strange to say, since the Newcastle inscription was discovered another text has been found at Hope, and it relates to the very Julius Verus of the Tyne text. The inscription has not yet been fully published, and until its finder, Mr. J. Garstang, gives his version of its contents, comment upon it is improper; but we have been informed that it was erected under Antoninus Pius by a Prefect of the I. Aquitanian cohort under Julius Verus, Governor of Britain. The cohort had, however, been found recorded upon an inscription at Bakewell.

Another Roman city from which a valuable inscription has been recovered this year is Venta Silurum, in Monmouthshire, about five miles from Chepstow, and eleven east of Newport. The name of the village practically above the old Romano-

British one is now Caerment. Its title shows that it was connected with the tribe of the Silures, who are mentioned by Tacitus, and were supposed to be in South Wales. They may also have inhabited the Scilly Isles, which were termed the Silures. Venta Silurum is not alluded to by classic historians, but the sort of Gazetteer of the Roman Empire known as "Antonine Itinay," and the geographical work, whose author's name is unknown, which goes by the name of the "Ravenna Geography," both mention it.

The newly found inscription informs us it was the administrative centre in Roman times for the organization of the tribe of the Silures. The text, which unfortunately is far from complete, reads as follows:

" LEG(ato) LEG(ionies) II. AUG(ustae) PRO-
CONSVL(i) PROVINC(iae) NARBONENSIS LEG(ato)
AVGVST PR PR PROVINC (iae) LVGDVNENSIS EX
DECRETO ORDINIS RESPVBLICA CIVIT(atis) SIL-
VRVM."

Although the names of the person in whose honor this inscription was given is absent, it may perhaps be obtained by careful search among all persons known to have held office in the Gallic Roman province of Lyons, who also are stated to have served in the II. Augustan Legion.

The excavations at Caerment are proving most fruitful. The walls and gates of the city have been traced, and much of its internal arrangement is becoming clear. It apparently was subdivided into twenty insulae. The Roman road ran from east to west, right through the centre. The majority of the buildings yet unexcavated are private ones. The arrangement of some of these is quite novel, as far as we at present know of the architectural features of Romano-British houses, for they have the rooms arranged on four sides around a rectangular courtyard. The walls are not of brick, but limestone blocks, and portions of the colored plaster with which their interior faces were covered is still preserved. Several mosaic pavements also have already been uncovered. Pottery and bronzes and some iron objects have been found in great numbers, also a rudely-carved head in sandstone. The latest explorations have disinterred a residence with a subterranean chamber, and the workers are proceeding to trace the lines of the streets, aided by some of the drains and culverts still in existence.

In 1898 and 1899 excavations were also carried out at the Roman fortress of Bremettenacum, near Ribchester in the valley of the Ribble, but no legible inscription has been found. It was one of what might be termed the supporting fortified stations for the great wall of Hadrian, and formed an important item in the frontier defence of Britain against the unconquered northern natives, until the legion having advanced into Scotland, the second wall from the Forth to the Clyde marked the limit of Roman sway.

Mr. Garstang, in a report of the result of the excavations, says:

Bremettenacum was analagous in place and constructive details with other forts of the same system and period. It was to be distinguished primarily from the camps of a moving army, the disposition of which is well known from literary sources, just as the name *castellum* was different from the word *castra*. Latin historians were careful of this distinction, and it behooves English archæologists to be on their guard. The Roman fort was hardly treated of in contemporary literature, but its character and military organization are now clearly defined to us by the results of archæological research. This fort was to be distinguished, secondarily with the class of which it was an example, from the later type of Roman fortress, familiar from ruins on the southeastern coast line of Britain; built in the fourth century to oppose the dangers threatening the Saxon shore. These later strongholds had external buttresses and turrets, were generally larger and with higher walls, and exhibited the prototypes of some of the mediæval details of fortification.

But, the class of fortress to which Ribchester belonged was entirely of the earlier character: severe rectangular shapes, with internal buttresses, and mural towers; magnificent double arched gates; a stout wall, not very high, with parapet and guard chambers upon its length. In large examples of this class, of which Ribchester (Bremettenacum) was one; the interior was filled with stone-built barrack-rooms and stables, arranged regularly in rows and streets. In the centre was the large praetorium, the headquarters for the commander of the division constituting the garrison. On one side was commonly a large storehouse and granary, and at Ribchester there seems to have been, quite exceptionally, a large temple within the walls.

The excavations at Silchester (Callewa Atrebatum) are still proceeding, but nothing of any importance has been found. Two more seasons will exhaust the area of the town and it is to be hoped produce some relics of historical or artistic value.

With regard to the Roman soldiers in Britain frequently being of German origin, it is not only that the inscriptions state the various corps were recruited there, and give them the names of tribes or peoples inhabiting Germany; but texts relating to special individuals often state that they were of German extraction. For instance, in the Tullie House Museum at Carlisle, in Cumberland, these two texts are to be found. The first is upon an altar:

"To Maponus and the Deity of the Emperor. Durio and Ramio, and Trupo, and Lurio, Germans, pay their vows."

The second is merely on a stone slab:

"To the comrades of the god Hercules, for the welfare of his fellow soldiers who are not Roman citizens, on account of their bravery by P. Sextantius; born at the Civitas Traianensis." That is at "Colonia Ulpia Traiana," now Xanten, near Cologne on the Rhine.

A singular link with Germany has recently been noticed in connection with a third inscription in the same museum, it reads:

"Deo Mogonti Vitire s(olvit) l(ibeus) m(erito)."

The catalogue describing this relic suggests: "Mogon was probably a local deity; here identified with Vitus, or Vetus, a

god met with in other Britanus-Latin inscriptions." Magon, however, is also given in other Latin epigraphic texts in Britain, for one at Plumpton reads: "Deo Mog(on)ti"; and another at Risingham: "Deo Mogenti Cadenorum et numini domini nostri Augusti," &c.

There is reason, however, to think he is not a British local god at all, but a Germanic deity from the Rhine province of Mogontiacum (Mayence) namely "the house of Mogontius"; Mogontius being a name derived from Mogons, as Jovius is from Jovis. The reason for suggesting that Magon is a German deity name, is the following text, preserved in the museum at Metz, of a goddess of the same name, namely, of Mayence: "Deæ Mogontiæ, Julius Paternus tabellarius ex voto."

It must not be supposed that only German levies, or that in the majority of cases, Germans were employed by the Romans as soldiers in England; as for instance, no less than thirteen different Spanish corps are already known from inscriptions. From texts found on the line of the Roman wall alone, the following European peoples are represented, as the names of the cohorts will indicate: I. Batavorum, I. and II. Tungrorum, I. Dacorum and I. Aelia Dacorum, II. Asturum, II. Delmatorum, II. Gallorum, II. Thracum, I. Nervana Germ(anorum), I. Hispanorum. We thus have tribes from Astures to Thrace, in the list and on other inscriptions we have recruits from Asia and Syria.

The intermarriage of scions of such a number of races with the native British women must have produced a people of **very** varied type: the different strains of which again intermarrying, between the departure of the Romans and the arrival of the Saxons, or other German tribes, must have created a race, at any rate in the neighborhood of the Roman garrisons, of singular variability.

United States visitors to England and Scotland have little idea of what treasures of interest to them, if they are historical students, or of an antiquarian turn of mind, are hidden away in the museums of the various county towns. All liable to destruction by fire and to gradual decay. It would be a worthy use for the wealth of some American to have casts made of say 500 of the most important monuments and inscriptions, and deposit them in museums in the United States. It is true that the texts are all (or supposed to be) published in the British Volumes of the Latin Corpus of Inscriptions, and the majority of them are also edited in the volumes of the various English local Archæological societies. But the inscriptions are often fragmentary, or, if complete, partly obliterated, and the completed, or emended copies and versions and translations given subject to error and correction. By having casts of the actual texts themselves, the material for re-investigation and restoration is provided, and a duplicate prepared in case of loss of the original.

The history of the Roman invasion and occupation of Britain, *as recorded by the monuments found within the island*, has never yet been adequately written. One most ardent and industrious student has published it for Lancashire and Cheshire. The best scholars have modestly waited until the number of inscriptions was still further augmented, but there are sufficient already discovered to enable such a work to be completed as would be of the greatest historical value and of such interest as to command a large circle of readers. It must, of course, embrace every inscription found in Europe, Asia and Africa, mentioning Britain, and they are very many, but it would be an object deserving the united efforts of a committee of scholars of the British and American Universities. Let us hope it will not be long before it is undertaken and achieved.

LEGENDS OF THE AMERICAN INDIANS.

BY C. STANILAND WAKE.

Although some Indian stories furnish evidence of contact with the white race, yet they may be regarded, on the whole, as embodying the early ideas of the native race and, therefore, as throwing valuable light on its past. They contain, however, practically nothing relating to its history, as this is usually understood, the incidents referred to being concerned almost entirely with the domestic and social life of the people, their character, and their beliefs as to the relation of man to nature and other organic existences. A consideration of the stories under these heads, making due allowances for modern changes, will probably give us a true notion of the mental condition of the ancestors of the present native inhabitants of North America, possibly several thousands of years ago. This is the real value of the stories, for the accounts given in them of the origin of the earth and its inhabitants, and of the Lodges and their ceremonial usages are purely imaginary, although they probably embody legends of considerable antiquity, brought with them from a country different from that which they at present inhabit. These legends have, undoubtedly, affected deeply the native mind, as shown by the fact that the religious and other ceremonials of the people are largely based on them, unless, as may be sometimes the case, the stories have been invented to explain the ceremonies.

The domestic and social life of the natives as described in these stories, would seem to have been much the same among all the tribes inhabiting the great plain region when they first came into contact with the whites. They were migratory, not sedentary, and lived in tents or tepees, placed near the bank of a stream or a spring, and usually not far from a divide, the situation being governed chiefly by the desire to be within range of the buffalo. This animal furnished their

chief food, although elk, deer, bear and other smaller animals, including various birds, such as ducks and turkeys, and fish, with roots and berries, were also eaten. Probably the reference to corn is an afterthought.

Animal food was obtained by the men, who appear to have spent most of their time during peace in hunting, but the meat was cut up and cooked, usually in a vessel suspended over the fire, by the women, who are represented as even carrying the meat into the tipi from the place where it has been deposited the hunter. No reference is made to the cultivation of plants, or to the domestication of animals, except the dog and the horse. Of these, the former was used for carrying things, and the latter afterwards for the same purpose, but also for war and the chase. The practice of cannibalism is often referred to, but it is usually ascribed to dwarfs and a particular class of beings called "Cannibals."

As to clothing, both men and women are described as wearing the ordinary native garments. Reference is made to buck-skin dresses, and other ordinary wearing apparel. The tipi is often referred to, and it would seem to have been comfortably furnished. The implements and utensils mentioned are of the ordinary character used by the natives until recently.

The social relations usually depicted in the stories are those of the modern Plains Indians. A family, consisting of a man with his wife or wives and their children, lived in a tipi, either near other families thus situated, forming together a camp, or alone, as might be the case when a family was left behind in charge of the camping ground, or a man went away in search of game, taking his family with him. Marriage was fully recognized, but it required no special ceremony. Usually it was brought about by intermediaries, presents being given to the girl's parents, who also were entitled to the services of the son-in-law, so long at least as he lived as part of their family. There are references to the custom which permits a man to claim his wife's sisters in marriage when they attain the proper age. The consent of both parents appears to have been required, and that of the daughter asked in marriage was also necessary. It was considered disgraceful for parents and children to consort, or mother-in-law and son-in-law, who ordinarily, indeed, were not allowed to speak with each other. Wives were expected to be faithful to their husbands, but adultery was regarded merely as an infringement of the husband's right, that is, as a crime and not as a sin. The offence was condoned on payment of a fine in horses or goods. If no such present was made by the guilty person, the husband would go and kill the horses, or take them by force. The woman was punished by a slight beating, or she would have her hair cut or the end of her nose cut-off.

As the men spent their time in war or hunting, when not engaged in amusement, the women had to attend to household

matters. If the husband brought home an animal from the chase, the wife, alone or assisted by her daughters, took it into the tipi, cut it up, and placed it in the sun to dry. It was part of the woman's task to fetch water from the spring, obtain the fuel, cook the food and keep the tipi in order. She prepared the skins, made all the garments and ornamented them with quill or other work. She made also the covering for the tipi, which it was part of her ordinary labor to take down and erect again on change of place for encampment. Although the married woman led a laborious life, she was her husband's companion rather than his slave. She was not allowed to act, however, outside of her special sphere.

But slight reference to government is made in the Indian stories. Chiefs are often spoken of, but their authority is not absolute, depending much on the personal character of the man, and their office is not hereditary, although the chief's son or brother appears to have had co-ordinated authority. The son of a chief moreover was not debarred from succeeding him, and the man who married the chief's daughter, if he was successful in the chase or in war, was readily accepted as his successor. The stories show that a tribe was always at war with some other tribes, and the making up of war parties by the young men was of common occurrence. These parties appear to have traveled several days before striking the enemy. On their return, if they had been successful, they made a special cry and the Scalp Dance was performed. This, with other dances, was kept up for several days, the scalps taken being attached to sticks and carried by women. The amusements of the people are often referred to by the stories. Gambling was one of the chief modes of passing the time. In addition to racing, there are references to the game of shinny and that of the wheel and stick. The performances of the ceremonial lodges may come under the head of amusements, although they are of a quasi-religious nature, as dancing forms so large a part of them.

The second subject we have to consider is the *character* of the early Indians as depicted in the ancient stories. This may be said to be good on the whole, most of the criminal acts referred to being committed by cannibals and other quasi-human beings, and not by the people themselves. Murder, when committed by the latter, was usually atoned for by gifts to the tribe, showing a great advance on the primitive system of blood revenge.

The stories would seem to confirm the belief that the people were usually quiet and orderly, easily guided, and although going on the war path as one of adventure, like hunting, yet peaceable at home and observant of the rights of others. There are few references to the cruelty which the modern Indians displayed towards their enemies.

Sensual ideas are very prevalent in the stories, although the

sex passion is never actually perverted, except in the union of human beings with animals, a notion which is due to the influences of another more general idea to which we shall have occasion to refer hereafter. It looks as though in evil beings, animal or human, we have the embodiment of the sensuality and the cunning of the Indian character, qualities which represent the animal in human nature, no less with the uncultured Indian than with the cultured white man, with whom, indeed, some of the Indians have come to associate the name of their evil beings. This, at first sight, is a grave reflection on the white man's character, but the association may have come about in another way. The Sioux are said by Captain W. P. Clark, in his "Indian Sign Language," p. 603, "to call the whites vocally by a name which they claim meant God, before the missionaries came among them," and such may be the real intention of the application to them by other tribes of the name of the evil being.

We have arrived at the third series of ideas embodied in the Indian stories, the *beliefs* entertained by the native mind as to the relation between man and nature, including other animated beings. The most striking feature of the stories is the apparent homogeneity between man and animals. Every object in nature would seem to be regarded as animated. Even stones are made to act as though alive, to move about, and even to marry women; while trees are not only endowed with the faculty of speech, but they have special knowledge and also occult power.

Although trees are supposed to be able to talk, they are not accredited with having organs of sense, and as they cannot move freely about, they are not on an equality with men. It is true that, according to the stories, trees must be able to perceive in some fashion, but they have limitations which make them inferior to animals. As to animals themselves, the features in which they differ from man would seem to be regarded as marks of superiority, rather than the reverse.

Animals are credited, moreover, with having greater knowledge than is possessed by men. The more mysterious arts which constituted the knowledge of the medicine man and of the sacred ceremonials are said to have been derived from the buffalo and other animals. The natives are close observers of the actions of the animals, and these are accredited by the stories with the same mental qualities as man possesses, making them act like human beings. It is not surprising, therefore, that marital unions between human beings and animals are not regarded as irregular.

This fact would seem to show that the native belief was monistic, in the sense that he regarded all beings, including man, as having a common nature. It may be said, indeed, that he regarded everything, even trees and stones, as human, a conclusion which might be accepted so far as the higher animals

are concerned, as these and the lowest men are practically on the same plane. It is not surprising that the savage mind ascribes his own qualities to all the activities of nature. The creator of the "origin myths" is spoken of as a man.

The sun and the moon are referred to as young men, or as man and woman. All the cannibals and other moral monstrosities are made after the human model, particularly the cunning and sensual being, whose traits are essentially human, on the lowest plane, although he comes to life again after being killed and is sometimes spoken of as a creator. He appears, moreover, as the author of death; at least he throws a stone into the water and says: "Let man's life be like this, for if all live, there will soon be no room for them. He bears a curious resemblance in his general character to the Christian Devil of the Middle Ages, who indirectly represents the spirit of evil, Ahriman, who, as the opponent of the Good Spirit, Ahura Mazda, is the author of evil thoughts, words and deeds, and brings death into the world.

The general conclusion to be arrived at from a consideration of the native traditional stories, is that they represent a people in a primitive condition of culture. In manners and customs they differ little from the Plains Indians when first known to the white man, or before the destruction of the buffalo compelled them to adopt more sedentary habits than they had been previously accustomed to. The people were still in the actual Stone Age. Of course the use of other materials, such as wood and horn, for certain implements was known, but not that of metals, unless the round plates or discs with which garments and tipis were ornamented were of copper. References to the use of *iron* can only be taken as evidence of the modern origin of the stories containing them, or at least of their modern dressing. The traditions belong, moreover, to the age of the buffalo, which, to the early Indian, as to the "red men" of history, is the provider of all the necessities of life. Captain W. P. Clark remarks ("Indian Sign Language") that "the Indians universally believe that the buffalo was made by the Creator especially for their use, and certainly when they are plentiful they get along quite comfortably with very little else." It supplied them with food, clothing, tipi coverings, implements of various kinds and fuel.

The buffalo not only provided the Indians with most of the necessities of life, but it was regarded also as the source of nearly all their ceremonial observances for the continuation of life and prosperity. The secret knowledge of the medicine man was supposed to have been derived from them and other animals, each of which was thought to have its own occult property.

The people of the earlier stories lived, moreover, at a period when men and animals were supposed to be of the same nature, and thought, possibly, to be capable of fruitful inter-

course, although without any evidence in support of the fact, beyond the occasional birth of monstrosities, which to the savage mind might well be regarded as due to such intercourse. Such a state of mind was required for the origin of the various systems of totemism widely prevalent among the American Indians.

As to the actual age of the Indian stories, it is difficult to form an opinion. Some of the longer stories have evidently undergone much padding by modern narrators or interpreters, and there are details which show, that many of them have undergone change from time to time. Their general contents, however, proclaim them to be of considerable antiquity, a probable estimate of which might perhaps be made if more were known as to the movements of the buffalo. The Indians followed the buffalo in its roamings, and the migration of the one was probably that of the other. It is possible that the Indians of North America and the buffalo appeared on this continent together, and it may be that the contents of the traditional stories, when more fully known, will be found to throw light on the place of the actual origin of the American Indians.

SOME NOTES ON THE ETHNOLOGY OF THE NEW HEBRIDES.

BY JOHN FRASER, LL. D., SYDNEY, AUSTRALIA.

About 1,300 nautical miles to the northeast of Sydney, Australia, is the small island of Aneityum, the most southerly of a group called the New Hebrides, from some fancied relation to the old Hebrides on the map of Scotland.

The great continent of Africa is the home and heritage of the negro race. Twelve hundred years ago they were dispossessed of the northern coast by the inroads of Mohammedans, and, in our own day, the south end of the continent is falling more and more under the sway of the white man, but Central Africa and the lands on the Niger and Lake Ichad and the district of the Soudan are still mostly free and occupied by millions of the black race. The earliest inhabitants of Egypt appear to have been negroes, and some of the Pharaohs married black princesses from the upper Nile.

It is remarkable that a diluted portion of that great Hamitic race dwells now in Australia and the seas to the northeast of it, and has been there for probably more than 2,000 years. In the absence of historical records, one must only say "probably," for at what time these Australian and Melanesian islands were first entered nobody can tell. Reasons can be advanced to show that it must have been in the remote past. But, however remote their advent may have been, or from whatever quarter they came, no ethnologist will deny that the blacks in our regions are akin to the blacks of Africa, for their faces merely

would confute him. Since that is so, we are met first by the inquiry:

(1) *How did our blacks come to be here?* So far away from their kinsmen in Africa. A full answer to that means a long discussion, but the gist of it may be given in a condensed form. Notwithstanding other theories I take it as proved that the original home of the undivided human family was a portion of High Asia, to the east of Mesopotamia. Our experience of the springs of action in daily life gives me the belief that the character of Ham and his sons did not let him remain long in concord with their brethren, but led them to part. Thus, at the dawn of history, the black race (Heb. *châm*, "warm, hot") having descent from Ham, are located on the hot alluvial plains at the head of the Persian Gulf, extending up to the junction of the Two Rivers. On this rich land they must have grown to great wealth and power, for Nimrod, the founder of the world's most ancient monarchy, was of the sons of Ham (Genesis x:8). But, in the course of time, some great convulsion split the black race in two. The one portion passed eastwards through Persia and Afghanistan—where traces of them are still to be found—and ultimately into India, where they were the earliest inhabitants. The other part passed westwards through Syria or Arabia into Egypt and Africa generally. That is why Genesis x:6 mentions Mizraim (the two Egypts, upper and lower) and Phut and Canaan as of Hamitic origin. Horodotus, the Greek father of history, says explicitly that these two main portions of the black race were represented in the army of Xerxes when he invaded Greece in 490 B. C. These he calls the Eastern and Western Ethiopians, and adds that the Eastern Ethiopians served in the army as a contingent from India. On his testimony we conclude that, at that date, there was in India a true Hamitic people, probably become negroid by that time from intermixture and dilution. Such a people is still in India, for the great Dravidian nation, which holds nearly all the peninsula, south of the Vindhya Mountains, is negroid, and has been classed by Prof. Huxley along with the Australians under the general name of Australoid.

It is agreed that the whole of India had for its first population a black race of which these Dravida are now the main representatives, and the Vedas, which are the sacred literature of the Hindus, tell us of the long struggle the invaders of the "Aryan colony" had in subduing the "noseless, eaters of raw flesh, non-sacrificing aborigines." This conquest is placed from 1500 to 1200 B. C., and caused a vast displacement of the native people. Besides the Dravida, who kept hold of the mountain peninsula of the Deccan, other portions of the natives took refuge in the Himalayas, and others again went forth into Further India, where remnants of them still exist. For instance, in the woods of the peninsula of Malacca there dwell at this moment the woolly-haired Semango—a true

negro tribe— and in the Andaman Islands of the Bay of Bengal there are the little Mincopies, who in stature and physique are the brothers of the pygmy Niam-niam of the forests of Central Africa. In passing I may here compare the fact that in the inland mountains of the island of Malekula in the New Hebrides there is a tribute of diminutive natives, who occasionally come down to the coast for supplies. They are said to average from 4 feet 6 inches to 5 feet in height, and are very kind and shy.

From Farther India the wanderings of the dispersed black race led them onwards into the East Indian Islands, then into Australia, New Guinea, Fiji, the New Hebrides and all the islands now comprehended under the name of Melanesia, or "the black islands." Indeed, if this were the place for such a discussion, I think it would not be hard to show that all of the islands of the South Seas, from Fiji away on to Easter Island were peopled first by this same black race. Returning to the Malay Archipelago, we have now no traces of negro inhabitants in Sumatra and Java, but anyone who will look into A. R. Wallace's notices of the other islands will see how often he finds portions of them occupied by Alfuros, that is, native negroid races. The Aëtas, a dwarfish aboriginal people of the Philippines are so-named because they are "black." They are akin to the Semangs and the Mincopies. The aboriginal Ainos of Japan also are supposed to be of black origin.

From all these preceding facts there seems to me, therefore, to be no difficulty in accounting for the presence of a negroid race in the New Hebrides. The severance of their remote ancestors in Southern Babylonia occurred, it may be, 5,000 years ago, and in that long period there is ample room for a wide dispersion of the original race and its branches, and we need not wonder that, while the negro proper has Africa for his home, the *disiecta membra* are now thousands of miles away from that home.

We must here note the fact that the black man of our seas is *negroid*, not *negro*. And yet I have seen in the New Hebrides some faces which are more negro than negroid; one man especially reminded me forcibly of an Australian, who used to come to my house and was an excellent example of the Austral-Negro. I have also seen here some who have the everted, thin lips of the typical Hottentot; many others, however, have the abnormally thick lips of the African negro; all the natives have hair frizzly and crisp, but not woolly; the end of the nose is broad and the nostrils distended, as in the negro; the bridge of the nose is much depressed, as in the Australian, and sometimes almost wanting, although I have seen several men who have straight European noses. The hair on the face is in some plentiful, in others scanty. The teeth are strong, regular and good, like those of the Australian and the negro.

Some one, at this point, may say to me, "If the natives of

the New Hebrides and of the rest of Melanesia be, as you allege, of the same common origin as the negroes of Africa, how is it that the Australians, Melanesians and other eastern branches have departed from the original type and become negroid?" The answer is at hand—by admixture. You have in your garden a red *Clarkia* and a white *Clarkia*. If these are allowed to mix freely, and the resulting varieties to mix with themselves and the original stock, you get at last flowers which are still *Clarkias*, but are much modified in form and color. Now, when the original dispersion of the black race took place, the western branch had only to pass through what is now called Arabia in order to enter Egypt, and thus establish a home for themselves in a new and unoccupied land; but the eastern branch, from which our natives here are sprung, had to go through Persia, the two Indias and Indonesia before they could reach our islands; in each of these countries a rest of only a few hundred years would produce a modification of physical type by marriage with the Mongolian and Aryan elements which lay near them; and so the hair ceased to be woolly, the bridge of the nose was elevated and the nose itself got straighter, and even in some cases the eye became slightly oblique in its orbit. Admixture with alien races will account for everything that is divergent in the physiques of our natives.

It is my opinion that the first inhabitants of the New Hebrides did not come in at once, but that there were several successive streams of immigrants—perhaps three or more—at long intervals of time. The last of these may have been as late as 1200 A. D., when the Malays appeared in the Indian Archipelago as conquerors. That and other previous events of the same kind must have brought on, as usual, a movement of peoples; in modern Africa a large tribe has been known to be driven from its territory and obliged to settle hundreds of miles away, from a similar cause. But we may assume that the blacks who came here first were of a more ancient and purer type than the next comers, and the others after them a still more mixed lot, with a different physique and color, language, ceremonies and dress. Each of these points deserves separate notice, which, however, cannot be given at present.

THE RUINS OF INDIAN CHURCH IN BRITISH HONDURAS.

BY REV. F. DE P. CASTELLS, BELIZE, BRITISH HONDURAS.

In September, 1902, I had the good fortune of being able to visit the settlement of Mahogany cutters at the point known as "Indian Church" (in the northern section of this Colony), near the New River Lagoon. The New River runs from about the centre of our western boundary, traversing the lagoon mentioned, and empties into the Atlantic Ocean at Corozal, near the entrance of Chetumal Bay. Its total length is nearly a hundred miles, and it is navigable for the greater part of it.

Naturally enough, my first inquiry was about the aboriginal name of this district; but herein I failed, for none could be discovered. The aborigines, or "Indians," still living in it speak Maya, and when consulted, answered that the place had always been called *Ichinchech*, which, obviously enough, is an attempt to imitate the sound of our English name.

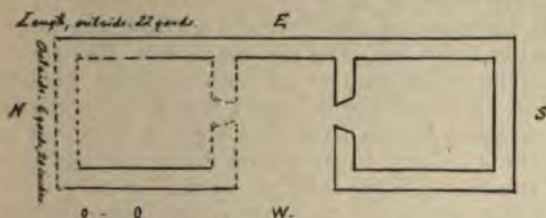
Assuming that the name was designed to signify (*for I had no positive information*) that in former days there had been somewhere near by a church or temple of some sort, I proceeded to investigate whether there remained any ruins, works or other relics, of the old building, and in this I was fortunate, for Mrs. Dewgard, the owner of the Mahogany Works, knew all about it, and immediately gave me two guides, who took me to the precise spot, opening up a way through the bush with their machetes as we went along. This good lady stated that the few people who have seen the ruins had the idea that the building had originally been a "Roman Catholic Church." But the idea is utterly preposterous, and I can only account for it by the ignorance that prevails concerning the aborigines.

Once on the spot, I at once sought to reproduce on paper the plan of the building, and as this was so easily done, a copy of it is appended as illustrating the brief remarks that will follow. As a matter of fact, one has only to glance at the plan and observe both the divisions and the measurements, to see clearly that the building was not designed to shelter any considerable concourse of people and could not, therefore, have been used for worship by a Christian congregation.

An old Maya-speaking Indian living in the neighborhood, by name Kulluth, assured me that when he was a lad (probably sixty years since) the structure was still almost entire save for the roof, of which no traces existed even then. On the other hand, the caving of the walls through the centre suggests that it is tumbling down from extreme old age. The mortar used for it, which is still fairly hard, has preserved its whiteness, but this is from the abundance of lime which it contains. This

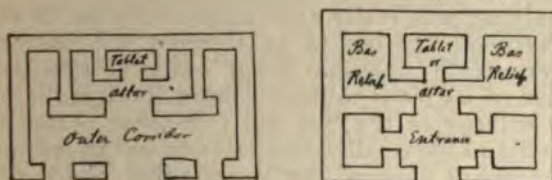
latter material being very plentiful in that vicinity. The stones employed by the builders are unhewn and of very irregular shapes. The thickness of the walls is really remarkable, *one yard and five inches throughout the building*, and this even for the partitions. It is impossible to ascertain their original height, but the highest portion of the wall now extant is fully sixteen feet above the ground; the top is broken, so that it may have been much higher, which would account for their extraordinary thickness.

The two side rooms had wide doors, it is evident from the stones projecting out of the upper angles of the entrance of the side rooms as they have sockets into which the corner points of the doors would be inserted, so as turn in and out. At this entrance, the wall is cut aslant, so that it widens toward



Plan of the Temple at Indian Church.


British Honduras.



Temple of the Sun at Palenque Ancient Building at Ocozinga

the inside. The central apartment which was the sanctuary proper, and faced the declining sun, has no such sockets, so that it may be doubted whether it ever had any doors at all. On examining the debris in the interior, I observed four large circular stones, which were evidently loose sections of pillars; they must have belonged to the sanctuary, for they still are there, with only one exception; their dimensions are: diameter, 17 inches; length, 21 inches. At first sight they look like barrels of cement that have become petrified by moisture; but one of them has split open through the centre, and shows it to be real stone. These pillars may have stood at the main entrance supporting a lintel, which would then imply the existence of a door, as we find at the Castle of Chichen Itza; but (as was also the case with two columns in the latter place) they may have stood in the inner room to support the large beams of the roof.

but whatever their position they were probably symbolical and may have been inscribed upon.

At present we cannot discover any traces of windows, if any ever existed, or of any mural decorations; but in the south apartment, and on the west wall, there is a peculiar cavity or niche shaped thus , the measurements being: width, 24 inches; height, 28 inches; depth, 20 inches, this latter being just half the thickness of the wall. What this could have been used for, it is hard to surmise. It seems very unlikely that it was a common shelf; it may have been a receptacle for the ritual vessels, or for the sacred books, that is, the records which the priests had to consult to determine the oracle.

Just outside the Temple, near the northwest angle, there are two raised blocks of stone, which are very conspicuous, and through the difference in size, recall those used by some primitive tribes for marking the limits of a grave, the large one showing where the head lies, and the small one the feet. At Indian Church the large one is 46 inches above ground, 28 inches broad and 12 thick; the second (*fifty inches further away from the main entrance*) stands 10 inches high, is 17 inches broad and 10 inches thick. Both these stones have the surface too uneven to be taken for altar-tablets, probably they were intended to mark the periods of 24 years (*ahau katun*), which the builders of the temple passed as an organized community settled in that locality; similar stones have been found in Mayapan, Zilan, etc., and this was found to be their object.

That the building was really an aboriginal temple, is, therefore, made over-evident; but in considering the matter we should not overlook the tangible proof which is afforded by the resemblance of its plans to that of other aboriginal shrines in settlements anterior to the Spanish Conquest. Like most oratorios it contains three divisions, stands on an eminence commanding a broad view of the surrounding plain, and is situated at a point accessible by water; the actual distance from the edge of the water is about ninety paces, the ground sloping down so as to make the ascent very easy.

About a quarter of a mile to the north of the Temple, that is, going down the river, there is a large mound, now overgrown with high brush, but no one has ever attempted to open it. Similar ones exist further away, going down the river. It is hard to imagine what these mounds could have been for. It is said that they form one continuous chain stretching to the end of Chetumal Bay and at intervals varying from six to twelve miles, altogether for a distance of "nearly 150 miles" of the coast line. The top of the mound at Indian Church is covered with a multitude of stones suggestive of ruined constructions. The people also spoke of "The Rock" at Stone Bank, where potsherds, axe heads, and other aboriginal implements, have been found, and of which I obtained some samples. Carved stones have been brought to light, but have not been taken

care of; no one was able to say whether these latter contained any inscriptions, or glyphs, but the probability is that if any had been discovered they would not have been recognized as such by those people.

I attach some importance to these ruins, and have made them the subject of a careful study, mainly because they happen to be situated in that part of Central America which is best known to archæologists. My idea is that excavations around and inside this Temple, as well as at the other places mentioned, would yield some results. As both the New River and the Hondo flow down from Petén, Indian Church lies on the way to the Yaxhaa Lake, where ruins of some importance are known to exist, and also shows the course taken by the Indians when they abandoned the coast.

The above description would not be complete without a few words as to the historic significance of the ruins, and this can only be determined by the consideration of other data. The author of "Mounds in Northern Honduras" (XIXth Ann. Report Bureau of Am. Ethn.), speaking of the buried edifice which he found at Santa Rita, near the mouth of the New River, says it was the work of "the Toltecs," who, according to him, had also "founded Palenque, etc.," and assigns it to "somewhere between the end of the twelfth century and the end of the fifteenth"; he being of the opinion that it was destroyed by the same people, either because of an evil augury at the close of a cycle, or else for fear of desecration by the Spaniards after their occupation of Bacalar.

Now, it seems clear that the two temples, though unlike in form and construction, have a common origin. Of the one in Santa Rita it is said the stucco of the paintings had been twice renewed, which means that it was *at least* two cycles, or 104 years, old. The writer might properly have gone a step further and added that counting this from the last Feast of the New Fire (when such renovations as he refers to, took place), that is to say, from A. D. 1507, we are led back to A. D. 1403. But it might have been built sometime between two cycles, and was most probably built at the commencement of the preceding one and then, if so, the dates would be: for the two renovations, 1403 and 1455 A. D.; and for the erection of the Temple, A. D. 1351.

Again, if the destruction of this Temple was due to the advent of the Spaniards, the dates of their various expeditions must be considered. The first to land in this portion of the continent were Valdivia and his fourteen companions, wrecked off Cape Catoche in A. D. 1511, all of whom were made slaves; then came Hernandz de Córdoba, in 1517, who landed at the same place, but was repulsed by the Indians; the first attempt at conquest was made by Alonso de Avila, who came in 1527, but the task was such a hard one that it was not accomplished until 1545, when Gaspar Pacheco undertook it in a more thorough

way. Ancoa, the historian, states that from 1517 the people began to emigrate inland and the stream of migration increased considerably after 1545. Assuming that the presence of the Spaniards were the cause for the desertion of the Santa Rita Temple, this last date should be the true one; but it would seem that the real motive was the alternative given above.

It has been said that the Temple was built by "the Toltecs." But who were the Toltecs? A great deal is attributed to them, but as a matter of fact there are very conflicting accounts of them; and as for Palenque, or Xibalba, and Lorillard City, far from having been built by the Toltecs, they were the work of an older race, who abandoned them because of the Toltec invasion. Nay, further, it was the advance of the Toltecs (otherwise called *Nahuas*) into lower Yucatan that brought about the abandonment of the settlement at Santa Rita.

About the middle of the nineteenth century, there was a feud between the Chan Santa Cruz Indians, of Central East Yucatan, and the Chichenhaas, who occupied the region to the south of the Hondo River. At that time the Chichenhaas claimed sovereign rights over the northern district of this Colony, and as late as 1868, they marched through it (under the leadership of the warlike Canut) to demand an indemnity of \$3,000 from the people of Corozal for having supplied arms and ammunition to their foes; which demand, however, was not enforced because of the sudden appearance of their enemies on the scene. Now, this feud was not a new thing, but the inveterate and traditional hatred of two antagonistic races. Which races? It is true that they both spoke Maya; but the Chan Santa Cruz were genuine Toltecs, while the Chichenhaas were Itzaes, the descendants of those who in early days had built both Itzmal and Chichen-Itza, but who, when the Spaniards came, had been driven south and organized a new kingdom, with its capital in Petén.

The struggle between the aboriginal element and the advancing Toltecs is most interesting. The Toltecs encroached on the aborigines by degrees, yet for a long time both races lived in close proximity in the same territory. But in 1460 there was a confederation of chiefs, who took Mayapan and destroyed it, and this event coincides both with the final abandonment of Chichen-Itza by the Itzaes and with their consequent migration *en masse* towards the region where in later times we meet with the Chichenhaas. This name Chichenhaas means simply "waters of Chichen," and arose probably from the fact that the people having taken possession of Petén from before the fall of Mayapan, they considered themselves the masters of all the territory traversed by the streams flowing from their new capital, even to the Atlantic coast. But, on the other hand, when the Spaniards arrived, Chetumal and Bacalas were already in the hands of the Toltec Mayas (if we may so combine the names), and, consequently, the conclusion we

come to, is: 1st, That the abandonment of Santa Rita was due to the continued advance of the Toltecs; and 2nd, that the time of it was the conclusion of the cycle (*either in A. D. 1455 or A. D. 1507*), when the priests were expected to forecast the events of the next cycle.

One other circumstance that commends this explanation of the burying of the Santa Rita Temple is, the incompatibility that there was between the religious creeds professed by the Toltecs and Itzaes. The former had a gloomy religion, with human sacrifices, full of bloody mysteries; whereas the Itzaes were a sort of Druids who practised neither human sacrifices nor idol-worship. As the reports were continually coming, of the gradual spread of the Toltecs in Yucatan, the Itzaes would fear desecration; and so, when the cycle came to an end, the time having come when the priests should consult their oracles regarding the next fifty-two years, what more natural than their prediction of new invasions, and the advice to retreat by the only way open to them—the river?

It is this that explains the origin of the other Temple at Indian Church. After those people would have gone seventy miles up the stream, they would probably consider the picturesque plain to the east of the lagoon as a safe spot on which to settle and there, therefore, they proceeded to build a temple which, though much simpler in form and construction than the one left behind, would answer the purpose just as well, at least for a time. The building has nothing remarkable in the way of architecture, and the plan is a crude one, but under the circumstances described, those people would not dispose of very great material resources, while during the period of 200 years and more that had elapsed since their defeat at Chichen-Itza, the race must have gone on declining in every respect. We cannot tell how long this settlement lasted, but if the two stones outside represent two periods of twenty-four years, they would then bring us down to A. D. 1555. Only four years later would be the Feast of the New Fire when, Sahagun tells us, *if the omen was propitious*, the work of renovation was taken in hand. By now, however, the Spaniards had conquered all Yucatan, and the Toltec Mayas were once more on their heels, fleeing from the conqueror, as they themselves had had to do; and this, together with the absence of any more cyclical stones or inscriptions, leads us to suppose that the Feast of the New Fire was not kept, but that the Temple was abandoned and the people retreated still further inland.

ANTHROPOLOGICAL NOTES.

BY ALEXANDER F. CHAMBERLAIN.

SCULPTURED STONES OF THE JURA. In the "Bulletins de la Société d'Anthropologie de Paris" (1903, pp. 20-50) M. B. Reber treats in detail the prehistoric sculptured rocks of the French Jura. These consist of erratic blocks about the foot and southern flank of the Jura, from Fort de l'Ecluse to Divonne,—part of the old basin of the Leman. They are popularly known as "Druidic" monuments. The carvings upon them are usually superficial and not at all deep, and numbers of the markings are difficult to recognize. The principal sculptured rocks of the region in question are: the two stones of Parey, one of which is said to be "one of the finest and most interesting of all such rocks" (the surface is almost completely covered with markings, "canals," "pits," etc.); the Fenières stone; the big Piram, near the village of Allemogne, which, together with other rocks in the neighborhood, is said to have been rolled into the field where it stands by the giants; the "Troclaz," or "Eagle Stone," on the slope of Mt. Curson; the "Pirra à Crotte," the central portion of which is thickly covered with "pits" and "canals,"—this stone is situated highest of all up the slope of Mt. Reculet; the "Pirra à Passon," situated in the Combe à Passon, which seems to bear traces of recent "rubbing" with pieces of stone in the hands of visitors; the "Pirra Liozet," or "sliding stone" (the depression in it from top to bottom explains the name),—the author states that in his own commune, tradition had it that just such an erratic block had concealed within it new-born children. If a midwife succeeded in going around it three times whistling without stopping, the child that came out would be a boy, otherwise a girl; the Tiambron stone, which has twenty-one typical "pits," this and other rocks near-by, the peasants say, were the balls with which giants once played; "Samson's stone" at Saint-Claude, Thioray, which contains, according to popular belief, imprints of the hand and the right foot of Samson (of the latter M. Reber says, "One would swear that it was a piece of sculpture, so striking is the shape and so perfect the form"), its popular name is "Samson's chair"; the "Big stone" of Arbère, near Divonne; the "Goliath stone"; the "heath stone," believed to be a rocking-stone by the peasantry, upon which, in order to be happy in life, each child born in the commune of Péron (quite populous) must climb, and also every year faggot fires are kindled on it, and beneath it, and pieces of the burning wood carried as a symbol of fecundity to every house, including those where for years no children have been

born; the stones of Mulet-Cunier (one immense block is called the "mule stone"); the "stone of Parythiole" and the rest of its group (*pary* or *parey*, we are told, is the dialect word for "boundary, limit," from which the "Parey stone" noticed above also took its name, and *thiole* is said to be a Celtic term for "altar" or "boundary-stone"); the stones of Lacombe, with a phallic figure upon it, etc. Some of these sculptured rocks are evidently of prehistoric type; others, however, are not so beyond a doubt. Some have, perhaps, served as altars, or for some other religious purpose; others may be merely of folk-origin, without special esoteric significance. Their number is unexpectedly large.

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DISENTIS TYPE. The so-called "Disentis type" is the subject of a special study by E. Wettstein, "Zur Anthropologie und Ethnographie des Kreises Disentis" (Zürich, 1902, p. 181), of which E. Fischer gives a brief review in the "Centralblatt für Anthropologie" (1903, pp. 107-108). The examination of osseous remains from the cemeteries of the district of Disentis in the Grisons, has led several authorities to recognize a "Disentis type," characterized by brachycephalism (93.6 per cent.), somewhat spherical skull, steep forehead, flat crown, perpendicularly descending occiput, face neither very broad nor very high, orthognathism, etc. To the Disentis type belong most of the Wallis skulls and part of the Waadtland crania, but not the brachycephalic lake-dweller skulls of Switzerland. The position of the skulls from the interior of Switzerland and the Tirol skulls of Tappeiner with respect to the Disentis type is uncertain. Closely related to it are the brachycephalic skulls of Bavaria and Baden, and especially those from the Alsatian cemeteries, and perhaps also Deniker's "fourth race." The type is, of course, nowhere unmixed, but is purest in the Grisons. The few data from the living inhabitants seem to indicate a dark-haired, grey (or brown) eyed people of middle height. Wettstein's book contains a mass of ethnographic, linguistic and folk loric material besides the romatic section.

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ROMAN SKULLS. In his paper on "Cranai Romani Moderni" (Atti d. Soc. Rom. di Antr., 1902, pp. 297-336), E. E. Tedeschi brings out some interesting facts from the examination (after Sergi's method) of fifty modern Roman skulls now in the Anthropological Museum in Rome, in comparison with other skulls from the various periods of ancient Roman history. At all epochs the ellipsoid, ovoid, and pentagonoid types seem to prevail, leading to the conclusion that they formed the basis of the Roman people, who were of the Mediterranean stock. Although, in the time of the Republic new types are found mingling with the old, the latter continue to predominate.

OKAPI AND SET. From Dr. Thilenius' review (Cbl. für Anthr., 1903, p 115) of A. Wiedemann's paper on "Das Okrpi im Alten Aegypten," which appeared in the "Umschan" for 1902, we learn that the author believes that "the Okapi presents all the essential traits which characterize the head of the sacred animal of the old Egyptian god Set." If so, the newly-discovered Okapi was very well known of old to the Egyptians.

* * *

THE NEGRO FOOT. In an article on "Der Plattfuss des Negers" (Dtsche. Med. Wehnschr., 1902), Dr. Muskat, from the examination of the feet of six negroes of Togoland, in German West Africa, comes to the conclusion that the idea formerly common that "flat foot" was a racial-mark of the negro is erroneous, such a condition of the foot, where it occurs, being due to the same causes producing it among the hard-working, heavily-burdened classes of our own race and communities. The feet of the Togo subjects were normal and well built.

* * *

SUCKLING. According to Neumann (Deutsche. Med. Wehnschr., 1902) the Berlin statistics of feeding infants show that while, for 1885 the figures for mother-feeding, nurse-feeding, and feeding with animal milk were respectively 55.1 per cent., 2.7 per cent., and 33.9 per cent., for 1900 they were 31.4 per cent., 0.7 per cent., and 54.8 per cent. The decrease in nurse-feeding seems due to the spread of the use of the Soxhlet apparatus. Of 1407 illegitimate infants 337 received mother's milk, 12 nurse's milk, the rest cow milk. This peculiarity of the modern "Kulturmensch" seems to be decidedly on the increase.

* * *

PAINTED RUNE-STONES. The find of Runic stones made in the summer of 1900, beneath the floor of the church at Gadro on the island of Gotland, of which a detailed account (briefly resumed by Dr. Almgren in the "Centralblatt für Anthropologia," Vol. VII., 1902, pp. 188-189) has been published by H. Pipping, is of more than passing interest. On three of the seven rune stones of Gadre are still present traces of red painting. This confirms the opinion held in certain quarters that many of the rune stones were painted or treated with some coloring matter. The Gadre find dates probably from the early half of the eleventh century.

LITERARY NOTES.

THE RED MEN OF BRAZIL.

It is not often that the Red men of Brazil are brought before the public, either by books, papers, or any other means. The result is that really little information has been gained of them for years. While great interest has been attached to the aborigines of the northern continent, and has been manifested in the people of northern Mexico and the Incas of Peru, the history of Brazil and the Brazilians has been neglected.

A book has, however, been recently published by the F. H. Revell Co., which was written by the Rev. Hugh C. Tucker, an agent of the American Bible Society, which is of very considerable interest from an ethnological standpoint.

Mr. Tucker says: "The aborigines of this country are for the most part of a copper color; of medium height; rather heavy set, with muscular chests; thick, straight, black hair; black eyes, and broad faces. In disposition, they are generally apathetic and undemonstrative. The tribes are not habitually or widely nomadic, nor can they be said to be permanently settled. Each tribe in a general way keeps within certain limits, unless driven out by a superior force. The country is well watered, and abounds in plantain, yams, mandioca root and a great variety of vegetable palm, as well as great quantities of fish and game. They have never felt the necessity of that exertion which tends to civilization. It is evident that they have long known the use of fire for roasting, boiling and drying food before they knew the white man; also for making signals when hunting in the forest, and for warming the body. Their method of producing fire was by the friction of two pieces of wood. The most generally prevailing religious belief among them seems to be that there are three great chief gods: the sun, which was the god of the animal kingdom; the moon, god of the vegetable kingdom, and Ruda, the god of love, or god of all reproduction. Besides these they have an abundance of subordinate or inferior gods.

"Their burial custom in depositing at the grave the bow and arrow, and vessels in which they prepare food, would indicate that they have some idea of immortality or the happy hunting ground of the future. The curious custom observed in some tribes when a person dies, of hanging a certain number of friends and relatives of nearly his own age, in order that he may have suitable company in the next world, is also quite significant.

"Certain aborigines have been found to be warlike, ferocious, revengeful and blood thirsty. Some of them were canni-

bals and ate their relatives with great ceremony. Some made war for the purpose of obtaining food; others ate their relatives as a mark of distinguishment. There was at first considerable friendliness between them and the whites, which resulted in teaching them the arts of civilization and many of the vices. Then followed efforts on the part of the Europeans to enslave them, which were resented by the chiefs, and re-



INDIANS OF THE AMAZON VALLEY.

sulted in the most bloody and cruel encounters. The Jesuit missionaries did much to ameliorate these inhuman scenes. Through their efforts and the civilizing influence of the Europeans, thousands have been gradually absorbed into the mixed civilization and whole tribes have disappeared.

The importation of negroes began in a general way with the arrival of the white settlers. In 1516 a slave was imported for a

hatchet. The importation of blacks constantly increased, and the slave trade continued until 1850. A Brazilian writer says that the negroes form the most robust race of Brazil. The priests have generally been considered the friends of the slaves. The mass of the blacks still follow the superstitious fetishism of their African ancestors. In a general way there is a free intercourse, and marriages are common between the whites,



AN EAGLE INDIAN
(Amazon)

blacks and mixed races, and these occasionally marry with domesticated Indians. They all mingle together under one government and enjoy all the privileges, and are at peace so far as color and race are concerned. There are class distinctions in society, but they come more by wealth, position and influence than from color. The amalgamation of the three races

has been going on in Brazil for 400 years. The influence of priestcraft and slavery has tended to give much seclusion to the family life, or rather to the female portion of the family.

It is singular that the superstition of the natives has gathered around the memory of one of the Jesuits—one of the seven Jesuits who were sent out in 1753—named Anchieta, and he is the subject of a great number of legends and fables. He has been styled by some the “Thauma turgus” of the New World, being the head of all of them and the founder of all the world, as Adam in Paradise. A book describing the miracles which were performed by him and by water poured over his bones has been published, and has had great effect in increasing the superstition. Polytheism and idolatry have not been overthrown, but perhaps sustained by the practices of the church.

The Indians seen in the cuts are good representatives of the prehistoric race, and the manner of ornamenting and decorating the person. Many of the tribes continue their old customs. When a person is buried they deposit food pots and bow and arrow, that they may provide themselves with game. In the valley of the Amazon some tribes bury their dead in huts, with the hope that while they are asleep they may be buried by those who love them. It is plain that the aboriginal customs have continued to the present time. This is illustrated by the manner in which they decorate their person; the same head-dress which was worn by the chiefs, consisted of plumes of various colors, which formed a semi circle above the head; a sort of diadem or chaplet surrounded the forehead; tassels were attached to the ear; necklaces fell from the neck, and other ornaments hung from the shoulders and covered the breast; the shoulders were also covered with plumes of different colors; around the wrists woven bands; around the waist a wide woven band, and from it hung feathers and plumes of different colors, making a short skirt; while around the knees and anklets are other bands from which hang plumes. In one hand is the long spear, in the other is the staff from which is suspended the badge of office. The author has unconsciously contributed, or brought before the eye, a good specimen of the costume which was common in prehistoric times, with some variations. The book is not intended as a work on archæology or ethnology, but is never-the-less valuable, for it describes the country and the people as they are at present. The author underwent many hard-hips in carrying out his mission of distributing bibles among the people, but he had access to the homes and saw the people as they are to-day.

There is, perhaps, no spot on the earth where the grandeur, beauty and harmony of surrounding nature stood out with such boldness as at Rio de Janeiro. A miniature summer sea, sleeps within the embrace of gigantic mountain chasms, upon whose bosom rest a thousand fairy isles, and around whose shores

dimple a hundred tiny bays. The coast is mountainous and picturesque giving rise to the name "The Sleeping Giant." The wonderful flora of the tropics with its marvelous lights and shade, the curious spires of the churches, the variegated colors of the houses, set in the background of brown and gray peaks, lighted up by the shining waters of the bay, make the whole scene a most entrancing picture.

Coffee raising is the chief industry of the highland region near the coast. The climate is warm and the soil fertile, and the coffee farms are productive. On the Rio Doce in the interior the land is much higher and becomes mountainous or hilly.

The San Francisco river is especially interesting, because of the villages and settlements, some of which are in decay and ruins. The river abounds in fish. When the dry season sets in the people move down from the mountains and hillsides to plant their corn, rice, beans, potatoes and mandioca along the flat banks of the river. They follow the same method practiced when they were wild. There is no breaking up of the ground needed; it is quite sufficient to make a hole with a sharp-pointed stick, drop the seed in and cover it. The soil underneath the deposit of sand is very fertile, and furnishes sufficient moisture for the growth of a crop, with the aid of comparatively little rain.

Many of them build booths or a shelter of palms and other branches of trees; some make no shelter at all, but simply take up their abode for four or five months under the spreading Gamilierra tree. They generally sleep on a kind of mat made of coarse reeds woven together, and have very few cooking utensils, no tables or chairs, and eat from a tin pan or gourd with the hands,—knives and forks and spoons being of little use to them. While the crops are growing they fish, cutting the fish in slices and hang it on poles. Just before the rains set in the traders barter to the planters for dry-goods and salt, for beans and rice, and load their vessels for the homeward voyage and are borne down the stream by the first freshet; while the planters return to the hills and mountains, and spend the time in idleness until the next planting season.

About eighty miles from Carinhauhas is a village where there is a great stone, about 600 or 800 feet long and about 250 feet wide, lying upon a dead level, which is known as the crouching lion—what one writer terms the "headless sphinx." It is a natural formation; deep black cracks—at altitudes varying from 10 to 30 feet—run horizontally, forming gigantic courses of masonry. At the southwestern end is a vertical precipice where the stone has been removed. Here is a natural grotto, varying in width from 20 to 50 feet; the entrance has been closed with a strong wooden door, fastened with a ponderous lock. Six stone steps lead up to this door, inside is an apartment like a vestibule. Ten steps lead up to the holy

grotto; near the entrance is an altar, over the altar the ceiling is arched, hanging from which a number of stalactites are seen. The altar is at the farther end of the cave, on a raised platform, the image of Baune Jesus de Lopa—not more than two feet in height—is encased in a gaudy shrine. This image is supposed to have healing power, and 25,000 persons have gone annually to worship at the shrine.

NATIVE TRIBES OF THE PHILIPPINES.

The interest which was awakened in the Philippine Islands and the people there, which was felt during the Spanish-American war, has subsided, and yet there are many problems remaining to be solved.

The following is taken from the report of the Rev. James Rogers of Manilla, published in the *Missionary Review* in 1901:



GROUP OF IGOROTES.

Scattered tribes of wild men inhabit the backbone of Luzon and are found in many of the other islands, hidden from the gaze of the traveller and soldier. The only ones who have come into any notice are the Igorotes of the northern provinces, whose faithfulness and trustworthiness are favorably commented on by the officers and men who met them. Of the other tribes very little is known, for in the olden times civilization only showed her brutal aspects to them, and they have become more savage and timid. Their object in life has been to escape the effects of the white man's civilization and religion. They were treated as little better than wild animals, and writers refer to the Spanish motto, or injunction, so often repeated: "When you see one of the wild men, shoot him."

Experience has shown that the Igorotes, when treated with fairness and justice, have proven trustworthy. It is fair to suppose that other tribes will also be susceptible to fairness and kindness. The descendants of the original tribes have all but succumbed to the white people who inhabit the islands; these came into the islands at an early date. Another branch of the Malay race seem to have come in later. There is also a small population of the Filipinos in the towns that surround Mindanao; they are exotic and not native to the soil, and many of these traders—many of them exiles, who were sent from different parts of the north for criminal offences.

In Zamboanga, Spanish is the language of the people, as they represent so many different ones that no one of them served as the medium of speech. Side by side with these Filipinos, and also in the interior, are the Mohamadan tribes, who are the most numerous and powerful, of the Island of



GROUP OF NEGRITOS.

Mindanao and almost the only inhabitants of Basilan and Palirang. The problem here is the same as in Borneo, the Straits, and probably similar to the Mohamedan problem in India and Persia. It has been said many times that the Moros do not think that the Americans are Christians because they are different from the Spaniards, but that they are a kind of second cousin to the descendants of Mohamed, possibly by his second wife; implying that the Americans are a little nearer to the natives, especially those who are Mohamedans, than the Spaniards.

The pictures which are presented herewith represent the two classes of inhabitants, the Igorotes and the Negritos, of the Philippine Islands. These are both different from the

Mohamedans and dress themselves in modern costumes, with turbans about their heads, coats or tunics with flowing sleeves, sashes about their shoulders, and loose pants; while the native Negritos and Moros go nearly naked. The Negritos live in huts, with a framework thatched both sides and top.

The population of the Philippines is made up of a great variety of races. The Negritos are the lowest, and the Tagalogues are the most civilized. The following may be taken as an approximation to the real numbers: the Rosayans number 2,601,600; the Tagalogues, 1,163,900; the Lakotes, 518,000; the Negritos are subdivided into about twenty tribal hordes, and number about 25,000,000; the Malayans are divided into about forty-seven tribes or races, and number about 6,000,000.

EDITORIAL.

SUPERSTITION A MEANS OF DEFENSE.

The religious sense was strongly developed among the various tribes of North America. It had the effect of bringing all the members of each tribe into harmony and gave great authority to the priests and chiefs, and may be said to have been the source of nearly all the authority possessed by them, for without it there was no means which the rulers could use that would compel the people to obey. There was no standing army, no hereditary gifts, no political organization, which would hold the people subject to authority.

There was, however, a system of religion, even among the wild tribes, which held them together and constituted a brotherhood among them which was as strong as that which exists among the secret societies of to-day. The signs of this brotherhood they bore upon their persons or painted upon their houses, and sometimes placed upon the soil. These served as a bond of union and had the effect of bringing together all who have the same totem to a common defense. A good illustration of this is found among the Iroquois, who were all united in a confederacy and became so strong that they became a terror, not only to the Hurons, but all the tribes situated along Lake Erie and the Ohio River. Other tribes had the same system, but they were divided and had no confederacy and made no common cause. It is supposed, however, that they were preceded by tribes which were more thoroughly organized and had perhaps a stronger system of religion. As evidence of this we may refer to such great effigies as the Serpent Mound, and such earthworks as are found in the state of Ohio. These show that the people were thoroughly organized and were under the influence of kings and priests or chiefs and medicine men, who led them to erect these great earthworks which proved a source of defense.

Beacon fires were frequently lighted on the walls of the defensive enclosures, and many elevated points within village enclosures were also used for the purpose of signaling distant places, so that we cannot confine the signal system to mounds or to isolated stations, though as a general rule the signal system was outside and supplementary to the village enclosure.

We would refer here to the fact that in the ancient fortification at Bourneville, O., there was a rocky summit which overlooked a great valley below, on which traces of beacon fires have been discovered, and that upon the walls of the enclosure at Fort Ancient traces of fire have also been discovered.

On the other hand there are many villages where the location of some lofty point near by would give great opportunity for exchanging signals either by fire or smoke for great distances. Many such points are seen in different parts of the country.

Messrs Squiers and Davis mention the fact that between Chillicothe and Columbus, in Ohio, not far from twenty of these points can be selected, the stations so placed in reference to each other that it is believed that signals of fire might be transmitted in a few minutes.

On a hill opposite Chillicothe, nearly 600 feet in height, the loftiest in the entire region, one of these signal mounds is placed. A fire built upon this would be distinctly visible for fifteen or twenty miles up, and an equal distance down the valley of the Scioto, including in its range the Circleville works, twenty miles distant, as also for a long way up the broad valleys of the two Paint Creeks, both of which abound in the remains of ancient villages. In the map of the Miami valley a similar position may be observed, and similar mounds occur along the Wabash, the Illinois, and the upper Mississippi, showing how extensive this signal system was, at the same time showing how intimately connected it was with village residence.

Rev. J. T. McLean has traced a line of signal mounds from Fort Ancient to the Miami River, and the writer has discovered that the great Miami Mound was so placed that signal fires could be seen for many miles up the Miami River in both directions, and connected the villages scattered along the different rivers to the east with others far to the west. He has also traced signal stations scattered along the bluffs of the Mississippi River from the city of St. Paul to St. Louis, and found that there were sometimes double and triple lines which connected these with others in the interior and that every high point was furnished with signal stations. Others have traced a similar system extending up the Missouri River, so that we may conclude that there was a network of these stations on which beacon fires could be lighted all over the Mississippi valley; though it is probable that they were used by different tribes, and that each tribe and each confederacy resorted to the same means for defense.

Along with these signal stations there was another class of ancient defenses,—a class which consisted of a combination of signal stations and fortified enclosures. There were several classes of enclosures. We shall only mention three varieties:

(1) The enclosures which were used by the warlike tribes, which were situated along the chain of the Great Lakes, through the state of Ohio into New York State. These have been described by various explorers and archæologists. Mr. E. G. Squiers has described those in the state of New York; Col. Charles Whittelsey has described those along the northern part of the state of Ohio, at Conneaut, Ashtabula, Painesville, and on the Sandusky River. The writer has visited the same localities and can testify to the correctness of the statements. Dr. Hill of Ashland, Ohio, has discovered forts within sight of



CHAMPLAIN AND THE IROQUOIS.

one another, through the whole length of Cuyahoga River, situated on tongues of land which would give distant views.

(2) There was a class of hill forts scattered over the region on either side of the Ohio River, which were probably occupied by different tribes; some of them were undoubtedly places of last resort for the people who dwelt in the villages, and served as defenses for the numerous villages scattered along the valleys. There were hill forts also as far south as Tennessee and Kentucky. Some of them were constructed out of stone, others had earth walls; but all were furnished with signal stations, as well as with walls and gateways.

(3) There were fortified enclosures along the Cumberland and Tennessee Rivers which were occupied by the Stone Grave people. They were furnished with extensive earth walls, and

possibly stockades were erected. The signal station was connected with them, but the burial places were within the enclosures. Stone forts were found also in the Gulf States, some of them upon the mountains.

The next method of defense was that secured by the erection of timber stockades, generally upon the hill tops. This was the method employed by the Iroquois, as well as by the various tribes situated along the Atlantic coast. Champlain found one of these stockade forts near the banks of the St. Lawrence, and had his first encounter with the Iroquois near it. Another stockade fort was situated on the southern part of Lake Champlain, near Ticonderoga. Here the Indians gathered with their boats constructed out of bark, but the French had boats of a superior style; the Indians were frightened at the discharge of fire arms and so were defeated. There were many such forts scattered through the state of New York. Champlain found the Iroquois entrenched in such a stockade fort at Onondaga. This fort was provided with platforms on the inside, on which the defenders stood. There was a stream of water on the outside which protected the fort from fire, and also repulsed the assailants. Champlain constructed an elevated platform, resembling those common in medieval times, and placed men armed with cross bows and fire arms on the platform, and was thus able to dislodge the Indians. Stockade forts like this were found by Cartier at Hochelaga, near Montreal. It was near one of these stockade enclosures, at Mouvilla that De Soto experienced his first defeat.

The villages in Florida were surrounded by stockades. The houses were constructed in about the same way; the timbers were set upright, making a circle, and were covered with a conical roof, which was thatched. There were, however, villages along the Atlantic coast and in New England which had no stockades.

The picture given on the following page represents the people which Verazzano, the early navigator, found dwelling on the coast of New England. There is no stockade in sight, but the people were dwelling under booths, surrounded by wild animals. There are other pictures of the same region, which represent the stockade as numerous. In the picture we see the various habits of these natives and their costumes; we also see the kind of boats with which they navigated the sea. Verazzano is supposed to have sailed along the south side of Long Island and may have reached Cape Cod, and possibly Newfoundland and the islands, for Basque vessels may be seen in the picture. The picture is interesting because it is the first view gained of this section.

Another method of defense was by means of pyramids, which were terraced upon the sides and had a platform on the top. This was a plan adopted by the tribes in the Gulf States and all the civilized tribes of Mexico and Central America.

The pyramids at Cahokia marked the site opposite St. Louis of a large Indian village, but there was no fort and no wall around the village. The only defense was found in the pyramids, on which the people might gather and repel the attack of any invading foe.

There were similar pyramids scattered through the Gulf States, and it seems probable that they marked the sites of ancient villages. The pyramids combined a lookout station, with a safe dwelling place, and enabled the ruling classes to live separate from the common people. In this respect the villages resembled the villages of Central America.

It is to be noticed that terraced pyramids were about the only defenses that the civilized tribes possessed. At least very



VERZANO'S PICTURE OF THE NEW ENGLAND COAST.

few walled towns have been discovered, but nearly all the cities were marked by groups of pyramids on which the palaces were erected. The best illustration of the advantages secured by a terraced pyramid is found among the Pueblos of the far West. In Mexico and Central America the pyramids were constructed out of stone.

II. The most interesting method of defense was that which came from the combination of religious symbols and mechanical contrivances. This has not been fully appreciated, but the more one studies the prehistoric works, the more examples he will find. A good illustration of this may be seen at Fort Ancient, Ohio.

Allied to this custom of using serpent figures in connection with the forts and villages, is the custom which prevails on the Northwest coast. Here the tribes are all related to one another and are generally at peace; and yet each village is independent of every other village, and is controlled by some chief, who rules in the name of some great supernatural divinity; the emblem of this divinity is placed in front of the houses, or carried upon the poles, and is sometimes painted upon the canoes. This fact has been a source of protection to the villages for generations.

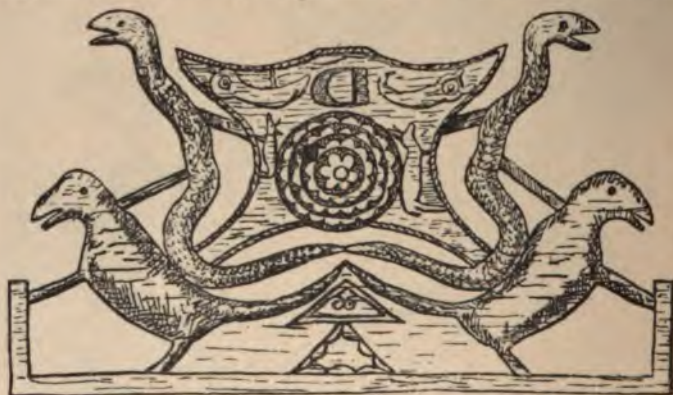
The figure of some animal or bird or fabulous creature is either placed upon the front of the houses or carved on the totem poles, and is seen and feared by all those who approach the village. It serves the same purpose as did the Great Ser-



ORNAMENT OVER A THLINKEET DOOR.

pent Mound in Ohio, and as did the great serpent effigies, made of stone, which formed the balustrades of the stairway at Chichen-Itza, and as do the dragon figures which are still seen placed over the pagodas and temples of China. In fact, we may compare all these figures to the celebrated lions which were placed over the gateways at Mycenæ, and the immense human-headed bulls which were placed in the palaces at Ninevah and Babylon, and the sphinxes which guarded the approach to the pyramids of Egypt. There are also peculiar figures to be seen carved upon posts in front of the houses in Polynesia, and upon the rocks near the stone houses of the Easter Islands. These may be supposed to have served the same purpose as the carved and sculptured figures referred to above. They were not fortifications, for they did not present any physical or material barrier, but there was back of these figures a religious influence which served as a protection to the houses.

On the Northwest coast there were many other devices which served to impress the people with a sense of fear. The figures which were carved upon the totem poles were often so fierce and ghoulish in their attitudes and combinations that they are calculated to frighten anyone who looked upon them; but the people here were accustomed to make masks which were even more frightful, and to wear these in their dances and religious ceremonies. These made known the divinity or manitou which was supposed to preside over the village, and served as a protection to all who dwelt in the village. There was a vast system of mythology which prevailed among the people which increased their superstition. Among the myths the most remarkable were those which told of the dangerous exploits of certain birds and animals which were supposed to haunt the air and the sea and the land. The most interesting one of these is called Ho Xhok. This fabulous bird has



COAT OF ARMS IN SUMATRA.

an immensely long beak and lives on the brains of men. Another one is called "Hamatsa," a cannibal, who instills into others the desire of eating human flesh, and devours whomsoever he can lay his hands upon. Another monster is a cannibal living on the mountains and is always in pursuit of man. Red smoke arises from his house. He has a female slave who procures food for him by catching men and gathering corpses; near the door of his house sits his slave, the Raven, who eats the eyes of the people whom his master has devoured. These fabulous creatures are often represented carved in wood and placed over the graves or in front of the houses, and form prominent objects in the villages. The double-headed serpent also is used as a totem, as well as a symbol of office and of power. It owes its power to a superstition which existed among the people.

These superstitions prevailed so extensively through the entire region, that they had the effect to keep the people who

are scattered about, at peace with one another. The dances are religious ceremonies, and in them the masks are worn which represent deer and eagles and birds and human faces and wild animals in the most grotesque and hideous manner.



TOWERS IN PERU.

The masks are often-times double, so that faces which represent birds will open and other faces are to be seen that are hideous, the glaring eyes and open mouth and serrated teeth of these hidden faces being calculated to inspire all who look at them with fear.

Another device is sometimes seen painted on the front of houses, which reminds us of one which was used as a coat of arms on the coast of Sumatra on the opposite side of the Pacific ocean. It consists of a double headed serpent, whose body rests over the door. Above the serpent are two birds resembling eagles; below are two other birds resembling ravens. Above, over the door, are two human faces and a bird standing upon them. The coat of arms, as described by Mr. Henry O. Forbes, "consists of a shield with double supporters on each side; a tiger, rampant, bearing on its back a snake, defiant, upholding a shield in whose center the most prominent figure is a sunflower, with two deer, one on each side; above the ornament is a half moon; the figures below the shield are two triangles, balanced on top of one another."*

This emblazoned board and its carved surroundings was hid away in a little lone hamlet, among a half savage and pagan people. It was a surprise to the one who discovered it, but it is more surprising that it should so much resemble the figures painted over the doorways of the native tribes on the Northwest coast.



STAIRCASE IN PERU.

Whether these resemblances were the result of contact, or parallel development, is a question, but this at least is true:

* See "Naturalist's Wanderings," by Henry O. Forbes. New York: Harper Bros.; 1885. Page 180

the serpent and the tiger served as an emblem on the coast of Asia, as did the serpent, the raven, the eagle, and other creatures on the coast of America.

Another example of this method of defense was found in the massive serpents which formed the balustrade to the stairway at Chichen-Itza. Here the monstrous head projects out eight feet beyond the foot of the stairway, and its open jaws and glaring eyes are so hideous as to impress anyone, and to the superstitious must have been exceedingly terrifying. These figures were perhaps designed more for ornaments than for defense, but they may have served the same purpose as did the Lion Gateway at Mycenæ, and the ghoulish looking idol which was placed over the gateway to the temple at the City of Mexico, both of which had the effect to keep the sacred places from the intrusion of profane feet.

V. There remains to be considered another method of defense and one that was more effective than any other. It consisted in surrounding a city, and in some cases an entire country, with a strong, high wall, and then placing at the gateways and the passes high towers, which were guarded by troops, and protected the city and the country from invasion. In many cases there were narrow stairways which led up to the citadels, and these were guarded by troops. The cuts represent these defenses, which were common in Peru. One of them represents the stairway at Pisac, the other the fortified pass at Pisac.

Mr. E. G. Squier says of these: "Wherever it was possible for a bold climber to clamber up, there the Incas built up lofty walls of stone, so as to leave neither foothold nor stone for an assailant. In one case the ascent on the side of the town is by a stairway, partly cut in the rock and partly composed of large stones, which winds along the face of the rocky escarpment; hangs over dizzy precipices; twines around bastions of rock, on every one of which are towers for soldiers, with their magazines of stones ready to be hurled down on an advancing assailant. We find every projection or escarpment of rock crowned with towers, generally round, with openings for looking out through which weapons might be discharged and stones hurled. Every avenue of ascent is closed. Every commanding and strategic point is fortified. Every peak is protected by a maize of works which almost baffle description."

These towers, stairways and mountain passes resemble those which still exist in the midst of the gold regions of Mashonaland, which are very mysterious, because no one knows at what time or by what nation they were erected.

ILLUSTRATED BOOKS FOR THE HOLIDAYS.

COURTSHIP OF MILES STANDISH. By H. W. Longfellow. Illustrations by Howard Chandler Christy. Indianapolis: Bobbs-Merrill & Co.

Several books have been published by various firms in New York, Boston and Western cities, which are admirable for their illustrations. Some of these relate to American subjects and others to the more ancient topics. One of these is published by Bobbs-Merrill & Co., Indianapolis, and represents the courtship of Miles Standish.

This is a very beautiful book and one which will undoubtedly meet with a great sale. It is one of the few books in which colors have been used and proved entirely satisfactory. The engravings are suggestive of the scenes which are described by the famous writer. The costumes and furniture and general make up are old-fashioned, and carry us back to the early days of New England. Some of the faces are suggestive of the period, though others have a modern aspect that might be taken as representing the society of the present day.

The best picture, or at least the one most suggestive of the period, is one that represents the Indian skulking through the forest. The book as a work of art reflects great credit on the publishers. It is certainly remarkable that a Western firm recently established should get out a book, which in many respects surpasses any that has been published by Eastern houses. The editor takes pleasure in commending the volume to the readers.

THE ART OF THE PITTI PALACE. By Julia DeWolf Addison. Illustrated. Boston: L. C. Page & Co.

Another book has been published by L. C. Page, Boston, which describes the specimens of art which are found in the Pitti Palace in Rome. The paintings which are in the Pitti Palace are more numerous and more varied than in any other collection, and this fact of itself is a great recommendation for the book which treats of it. There are in the palace several halls: one called the Hall of Venus; another, the Hall of Mars, and the Halls of Jupiter, Saturn, and the Iliad; all of which are full of noted paintings. Besides these we have some of the early pictures of Fra Angelico in the royal apartments, and statues of Cain and Abel by Dupre.

There are in the book thirty-eight full page plates, or engravings, all of which represent the paintings very correctly, except that the colors are not brought out. The book contains a description of the origin and growth of the collection,

and gives a sketch of each artist and describes each of the pictures. It is a book which anyone who has a taste for art will find satisfaction in taking up and reading from time to time, for the book grows upon one and will bear continued study. The frontispiece represents one of Raphael's paintings, a portrait of the same beautiful model which is presented in the Sistine Madonna, evidently a Roman woman of noble blood. There is something about the face that tells that something of the soul and heart of the master went into it, and still lives on the canvas.

HISTORIC BUILDINGS AS SEEN AND DESCRIBED BY FAMOUS WRITERS. Edited by Esther Singleton. New York: Dodd, Mead & Co.

A third book is "Historic Buildings as Seen and Described by Famous Writers," published by Dodd, Mead & Co., New York, and edited by Esther Singleton. The pictures in this book represent temples and palaces in India, in Italy, in France, in Spain, in Germany, and in England. There are no palaces in America. As a result this continent is not represented.

The Church of the Holy Sepulchre in Palestine, the Coliseum at Rome, and the Statue of Buddha in Japan are familiar, but the majority of the other buildings, with the exception of the Luxemburg Palace and Haddon Hall, England, are somewhat unfamiliar; at least they are not so common as to seem to the reader to be commonplace. Kennilworth Castle is familiar, but the picture is a good one, and is interesting because of its associations. The Fountain of the Old Seraglio in Turkey is not so well known. The tower in Portugal, and the alcazar of Seville, Spain, can well be put beside the Holy House at Serretto, Italy, and the fortress and palace of Gwalior, India; in fact there is as much variety to the styles of architecture and to the scenes with which they are surrounded that any reader will find much delight in looking at the pictures.

There is a great difference in the dates of these buildings, as well as in the styles. The Coliseum, perhaps, is the oldest; the Church of the Holy Sepulchre is next to it; the Leaning Tower of Italy follows. This may be associated with the Castle of St. Angelo, Italy. Salisbury Cathedral followed the great revival in Gothic architecture; it is the most beautiful and perfect cathedral in England.

We may say, in examining the plates, that the use for which a building was erected had great influence over the style of its architecture, and yet there are fortresses in India which seem like palaces, and palaces in Italy which seem like forts. The situation confirms the impression as well as the style of architecture. The golden temple of the Sikhs in India is situated in the midst of the water, and seems like a great bath-house;

but the palace of the pope in Italy looks like a fortress. These are exceptions, for the Castle of St. Angelo, Italy, is every inch a castle, and the cathedral at Rheims is a cathedral and nothing else.

One who is interested at all in architecture will find this book of great interest and value. One can read it with more ease and with more leisure than he can undertake to travel to these countries and examine the original buildings. The engravings are interesting in themselves, aside from the book.

AN ENGLISH VILLAGE; a new edition of "A Wild Life in a Southern Country. By Richard Jefferies. Introduction by Hamilton W. Mabie. Boston: Little, Brown & Co.

Another book, entitled "An English Village," a new edition of "Wild Life in a Southern Country," is by Richard Jefferies. This is perhaps the most charming of all, not because of its art or its architecture, but because of its homely character, and because it brings us near to Nature's heart. It contains pictures of native and rural life, made in Wiltshire, England, by Clifton Johnson.

BOOKS ON EARLY AMERICAN SCENES.

Two books have been issued by A. C. McClurg during 1903 on early American history. One entitled "A Short History of Mexico," by Arthur H. Noll, describes the appearance of the City of Mexico as it was before the time of the Conquest, and at the same time identifies some of the same features as having survived the Conquest. The book is not as interesting as it is instructive, for the original Mexican names as given somewhat obstruct the narrative; but the carefulness with which it is written helps the reader to understand what changes occurred at the time of the Conquest. It contains the history of Mexico in a very small compass and brings the subject up to date.

The other book, entitled "Historic Scenes on the Ohio," was written apparently in the field, or rather beside the river. It is a description of a skiff voyage taken by the author, and contains an account of the people the party met on their voyage. One who is not familiar with the country might form the impression from reading the book that people who dwelt upon the Ohio River were very outlandish in their ways and style of speech, but the impression is changed if one considers that they are only what are called the "river rats," and neither represent the heroes who have made the river celebrated for their exploits, nor the present citizens who have made their home upon its beautiful banks, and filled the valleys with many great cities and changed it from the wild state to the present condition. The book contains a number of allusions to the historic

events which occurred on the banks of the river, and a description of a few historic works, though some of the most important are left out.

The first book contains no illustrations, but is valuable for the many facts which it contains. The last book is well illustrated and is entertaining and somewhat amusing.

THE PRESERVATION OF THE MONUMENTS.

The prehistoric works of this continent are at present in a shape which renders it absolutely necessary that some means should be devised very soon for their preservation, or we shall be led to lament over their disappearance and complete destruction which has been brought upon them. It is mortifying and somewhat discouraging to those who have made a study of these interesting works to know that vandal hands are busy at work in various localities in tearing down and destroying the most interesting and valuable of these ancient monuments, for the sake of getting the few relics which may be hidden beneath them. It may be that a collector will secure enough to pay his expenses into the ground, but the prospect that some money can be made is so delusive, that hundreds of persons make superhuman exertions to get at the spoils and make merchandise of the relics which may be found. The collector, who does this work may lay the flattering unction to his covetous soul, that he is a wonderfully scientific man and a great archæologist; but the heart of men is very deceitful and bent upon evil. They are to be compared to the managers of theatres, who grow reckless, betray the patronage of people who think no evil, and who impose upon a generous public, their deceitful subterfuges, until some terrible calamity comes. The recklessness which follows the covetous spirit is a source of destructions to everything that is sacred and good. If there is any way by which law can be enforced, and the precious things which have been given to us as an inheritance can be preserved, it is to be hoped that that way will soon be pointed out, and an end be put to this wholesale destruction of the monuments.

The Archæological Society of Wisconsin has been active during the past few years in exploring the few remaining effigies which are to be found upon the soil. And notwithstanding the refusal of legislature to enact any law for their protection, the members of the society are still at work in creating a sentiment in favor of this measure. The danger which threatens the destruction of these interesting effigies does not come from the collectors, for most collectors realize that relics are not found in the effigies, but it comes from the

carelessness and want of appreciation of the persons on whose land the effigies are placed.

It was a surprise to the Editor, a few years ago, while attending the Librarians Association of the United States, in an excursion to the beautiful city on the four lakes, to find that out of the hundreds of effigies which formerly adorned the hills, upon every side, not a half dozen had been left intact, and these were hardly perceptible. Citizens, who own farms, and will allow driveways, roadways and public walks to be laid out over their farms, seem to be unaware that the effigies which formerly were scattered over their land were of any importance, and so have allowed them to be plowed down.

EDITORIAL NOTES.

Herbert Spencer, the celebrated English author, died recently, aged 83.

W. E. H. Lecky, the author of "Mediæval Europe, died October 22, 1903, aged 65.

Prof. Theodore Mommsen died recently, aged 86. He was Professor of History in Berlin from 1858 to 1903. Mommsen's "Roman History" is known to all scholars. His greatest work was "Corpus Inscriptionum Latinorum."

MODERN CLIFF-DWELLERS.—There are whole communities in France whose only habitations are hollowed out in the rocky hill sides, and whose entire business life is carried on in caves.

Egypt can show the biggest engineering works in the world. The Pyramid of Gizeh contains 7,000,000 tons of stone; the irrigating reservoir at Lake Moeris hold 11,800,000,000 cubic metres of water; the columns of a temple at Carnac, 12 feet in diameter and 60 feet in length, were floated down the Nile and were raised into their place; the statue of Ramses II. weighed 887 tons, but they were raised to their place by the use of wedges and levers, and ropes and pulleys.

Obsidian relics are generally found in the Yellowstone region, or in Mexico, but a large number of obsidian arrow points have been found in Wisconsin, and are now in the various cabinets. A description of them will be found in the Wisconsin Archæologist (July, 1903), written by Mr. P. V. Lawson. The Wisconsin Archæological Society is doing a good work in the way of plotting and describing the few remaining effigies found in that state.

RECENT DISCOVERIES.

A recent discovery at Pompeii: a statue in bronze, with the right arm missing, the representation of masculine beauty; one of the most beautiful statues of the first epoch. The attitude is noble, profile pure, the aspect serious.

A remarkable discovery in Babylonia has been made. It consists of a school house of seven rooms and all its equipments, dating back to the time of Hammurabi, with tablets; also hymns in the Sumerian languages, meteorological tests, lists of words, nautical problems, contracts; all of the texts were signed with the name of Hammurabi. Peré Scheil, who has translated the laws of Hammurabi and who belongs to the French Archaeological Institute of Cairo, is responsible for the genuineness of the discovery.

The annual apportionment to the Boston Museum of Fine Arts of objects recently exhumed under the auspices of the Egypt Exploration Fund, consists of rare specimens of primitive Egyptian art, including pots, stone palettes, glazed porcelain of the first dynasty, tiny figures from Abydos, alabaster bowls of the fourth dynasty, and basalt ware from Edfou.

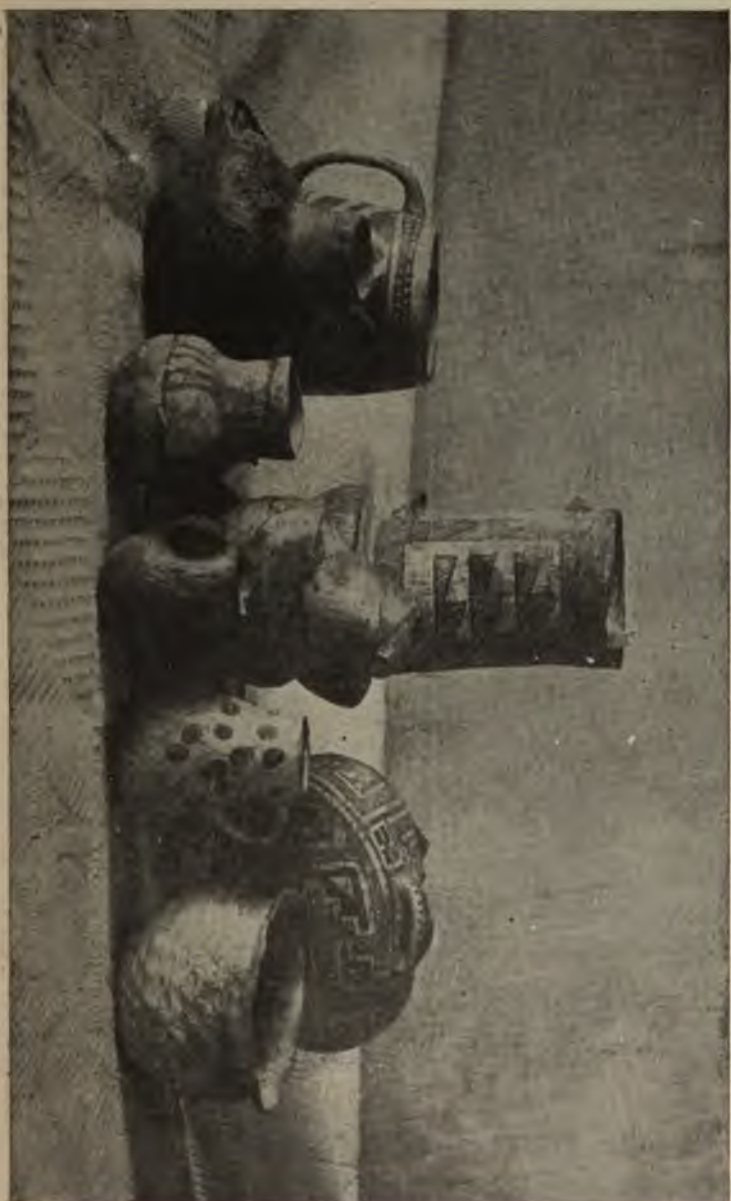
An unusual number of literary treasures have been exhumed in the past few months. Besides the celebrated laws of Hammurabi we have the Ode of Timotheus; the Sayings of our Lord; a dream of Sophocles, called "Achaian Syllog"; a part of two odes by Pindar; eight books of Livy that were lost; a part of Medea of Nophoron; also certain Egyptian letters of peasants written in Greek of the third century, throwing much light on the agriculture of the Nile, and another collection of the Sayings of Jesus.

BOOK REVIEWS.

INDIANS OF THE PAINTED DESERT REGION. By George Wharton James. New York: Little, Brown Co. Pp. 264. Price, \$2.

The Indians who dwell upon the great plateau are supposed to belong to the same stock as the Indians who formerly dwelt in the Mississippi valley, though they present a very different appearance and dress in a very different way, and build very different houses. Their religious customs, their social organization and form of government are also peculiar to themselves, and yet well adapted to the circumstances with which they are surrounded. Peet's book upon the Cliff-Dwellers, which was published in 1899, contains a description of them and their mode of life, though it was confined to the prehistoric and early conditions. This book of Mr. James is written by one who became familiar with the present condition of the descendants of the Cliff-Dwellers, and he is able to give a very graphic description of the people whom we now call the Pueblos, from close observation and experience.

The term "Indians of the Painted Desert Region" is more general than the term "Pueblo," for it includes the Navajos, who dwell in the mountains, as well as the Hopis and Zunis, who dwell on the mesa; and also gives the author the opportunity of describing the other tribes which are scattered through the same general region, such as the Wallapais and the Havasupais. There is no one living at present who is better qualified to give a general description of all these tribes than the author. The late Major Powell traversed the region and was acquainted with all the tribes, but he never wrote a book upon them. Many different authors have described the region and the people. Among these we may mention the names of General Simpson, Mr. L. H. Morgan, Major J. W. Powell, J. Walter Fewkes, Dr. Washington Matthews, F. G. Hodge, F. H. Cushing, A. F. Bandelier, C. F. Lummis, and many others.



ANCIENT POTTERY DUG FROM PREHISTORIC RUINS OF THE PAINTED DESERT.



INDIANS OF THE PAINTED DESERT REGION.

There is no class of aborigines who have secured more attention from the American public than these very tribes, and yet their origin is involved in obscurity, and their relation to other tribes and stocks remains uncertain. The book on the Cliff-Dwellers by the Editor of THE AMERICAN ANTIQUARIAN covers the same field in a general way, though the Cliff-Dwellers themselves have entirely disappeared, and no one knows what their fate was to a certainty, but the supposition is that they were driven from their strongholds and found refuge among the Pueblos further south. It is to the air continent, with its high mesas, its deep valleys, its high precipices and many-colored rocks, that the name of "Painted Desert" has been given, and it is an appropriate name, for while it is a desert, the rocks have so many and varied colors that they seem to be painted; and yet the general impression is that it is a desert, which is sometimes parched and sun-burned and silent, and again a waste and howling wilderness. The scenery is wonderfully diversified, as the streams which drain the desert have in the course of ages plowed their way through the rocks, wearing their channels deeper and deeper, so that now one in crossing the desert has to go down into these deep valleys and climb up the high mesas, and is always surrounded by a different scene. The Grand Cañon runs across its northern borders. The Colorado River, which drains it, has many tributaries. The great mountains, extinct volcanoes, wide and desolate mesas, valleys filled with cottonwoods, vast sand wastes, regions swept by storms, filled with caves. The inhabitants scattered here and there; some of them in the valley, but the majority of them still making their home on the mesas; all of them isolated from the rest of the world.

Mr. James, the author of this book, is well qualified for his task, inasmuch as he has spent weeks and months in traversing the region. His adventures were numerous and his descriptions are graphic and interesting, and they are in great contrast to those which have been furnished by Mr. C. F. Lummis, who makes up in exclamation points for what he lacks in real descriptive powers.

The storms which sweep this region are often fierce, and come up so suddenly that no one can escape their force. The soil is barren, and yet the people are so industrious that they reap from it crops which support their large families. It is the anxiety for crops and the sense of dependance upon the clouds for rain, that the numerous religious ceremonies are conducted by the people.

The most interesting thing is the Snake Dance which is so well known. It is supposed that the snakes act as intermediaries to take the prayers that her children on the earth have uttered for corn and grain. The spider woman is also asked to weave the clouds, for without them no rain can descend. The lightning symbol of the antelope; the shaking of the rattles, which sounds like falling rain; the use of the whizzer to produce the sound of the coming storm; these, and other similar things, show the intimate association with the rain and its making. The decorations of the dancers illustrates the same point, for they are covered with symbols of lightning. The prayers of the people indicate the same. A translation of one of these has been given by Dr. Fewkes, as follows:

"Hasten clouds from the four world quarters.

"Come snow in plenty that water may be abundant when summer comes,

"Come ice and cover the fields that after planting they may yield abundantly.

"Let all hearts be glad."

The use of corn meal, and prayers for corn, have come to have an important place in this ceremony.

In strong contrast to the so-called Pueblo tribes are the Navajos. Dr. Washington Matthews has written concerning these. His books on the Navajos may be compared to those of Mr. Cushing on the Zunis, but they are more accurate and less poetical. Wonderful songs, full of poetic imagery, suitable for every conceivable occasion; songs which have been handed down for generations prevail among this people. Many of them

have been secured and written out and published, both by the Bureau of Ethnology and various books; so that everyone interested in aboriginal poetry can find enough to admire in these wonderful songs. The art of the Navajos is also worthy of study. This art is mainly exhibited in the sand paintings and in the personal decorations, and is closely connected with the religious symbolism which has been handed down for generations. The Navajo is known as a blanket-weaver, but as a song-maker he is more worthy of admiration. It is perfectly wonderful that an unlettered people could put together such a mass of imaginative literature which is full of imagery drawn from the many colored mountains and the skies and various objects of nature, and preserved in the sand paintings and songs which constitute the chief elements of their religious ceremonies.

Among the ancient people, religion was perpetuated by song and the dance, as well as by the ceremonies. The Greeks changed this to poetry and to tragedies to represent their religious thoughts or sentiments. This people, situated a far off amid the mountains, without the art of writing, have preserved legends and songs which are as poetical and as beautiful as any of those which have come down to us from the ancient people of the East. They are not confined to measures and do not rhyme. There is little of what may be called history or even tragedy in them, and yet they celebrate deliverance from captivity and strange adventures, along with the wonderful exploits which, through the assistance of supernatural beings, captives have been able to accomplish. The divinities dwell upon the mountains and amid the clouds, and yet others dwell in the valleys and are hidden in the caves, but everything is alive. The natural and supernatural are mingled together. The literature of the Navajos is certainly worthy of study. The Editor of this Magazine has referred to it in a book in preparation on "Myths and Symbols," which will contain descriptions of these songs and ceremonies.

It is certainly fortunate that so many intelligent persons have made a study of these Indians of the region, and that these songs and ceremonies have been so well described. If this work could have been done among the tribes which formerly dwelt in the Mississippi valley, we should have a different idea of them, than has hitherto prevailed. The Indians of this valley were perhaps more warlike than either the Pueblos or Navajos, but they were less warlike than the Apaches, Comanches and other tribes, and possessed a greater amount of mythology. They are as worthy of admiration in many respects, notwithstanding the atrocities which they committed. The wrongs inflicted upon them were much more aggravating than any visited upon the Indians of the Painted Desert. This is owing more to the fact that their land was coveted by the whites; they were followed so closely that resistance was inevitable. The tribes of the Northwest are also rapidly disappearing, but in the desert land there are barriers of climate, soil, and situation, which may for a time protect the people from the incursions of the whites, and the claims of humanity should assert themselves in reference to all the tribes. It may be that the admiration for the art, the industry, and the poetry, which are gradually becoming known to the people, will prove not only a means of defense, but an incentive to effort which will result in the improvement of these isolated tribes.

VACATION DAYS IN GREECE. By RUTH S. RICHARDSON. New York: Scribner, Sons, 1903. Pp. 120. Price, 52.

One naturally takes up this book with great expectations, for the title and the name of the author naturally leads one to expect vivid descriptions, not merely of the scenery, but the ancient lands and ruins, which are known to be found in the various localities. The publishers have furnished many valuable plates which bring before the eye the ruins of the temples. The temple at Straton, also the Temple of Apollo at Thermon, a theatre at Epidaurus, and the so-called Concord Temple at Girgenti are given, the descriptions, however, are all too brief. They have reference to

Delphi, the Sanctuary of Greece, which was the seat of the oracles. Olympia lies in a charming valley, but at Delphi the awful oracle spoke the doom of men and states. The games were prominent at Olympia, but religion was paramount at Delphi. The yield of statues and excavations includes the bronze charioteer and whole museums full of statuary of the utmost importance. The oracle of Dodona comes next. The Vale of Tempe, an acropolis, which can be seen from a distance,—fine old Hellenic walls! A ride across a range of hills, and this, the oldest oracle of Greece, famous before Delphi, is seen. The temples and the finely built theatre, one of the largest in Greece; and walls about three miles in circuit, twenty feet high and twenty feet thick, and of the finest polygonal work, are found near the place. Thermon, the ancient capital of Aetolia, comes next.

The first four cities of Ancient Greece—Athens, Sparta, Thebes and Corinth—can be reached in less than three days' travel. Parnassus, Snowy, Chaeronea and Thermopylæ can be reached in another day. Thermopylæ has in recent times lost its original character. A carriage road, a thousand feet above the water, affords a fine view of the gulf, takes the place of the pass, and so the pass may be circumvented.

Among the walled cities, the most important is Stratos. It has a well-preserved foundation of a temple of white limestone. Its walls are extensive and high. Here, two grim fortress capitals frown at each other for ages, with the river rolling between them.

The temple at Thermon is represented by a plate. This temple was reached and destroyed by Philip V., in revenge for the destruction of Dodona. Thermo has been positively identified, though it had no acropolis, but was a gathering place on a plain. Thermopolæ is also represented by a plate, but seems to be a wide plain, instead of a pass.

Thessaly is a land apart from the rest of Greece. It was the home of Achilles and Alcestis. It is a land apart to-day. Homer speaks of the giants who piled Pelion upon Ossa, but Olympus or Pelion would be the natural base upon which to pile other mountains. Tempe is one of the great show places of Thessaly. The legend is that Poseidon split open with his trident the great range of western mountains and let out the water which made Thessaly a lake. If we let the trident represent an earthquake, and put them back in geological times, it would be true. It was a poetical way of describing a geological fact.

The highest mountain in Greece is called Corvus, or Crow Mountain, it is higher than either Olympus or Parnassus. A journey from Athens to Eretria lay through the Pireus, over the sea and the Lelantine Plain. The Temple of Apollo with its archaic sculpture commanding the acropolis.

Greece is such a small country, that to traverse it from end to end, and see Sparta, Argos and Thebes, with some mountain climbing thrown in, takes but ten days. Sparta, represented by a plate, is a modern-looking village, but the mountains in the background are the same as they were in the great days when it was the seat of the Republic. Thebes espoused the cause of Persia and led away nearly all the rest of Beotia. Arcadia is a name to be conjured with. The Stygian pool is here,—represented by a plate,—with an ordinary tin cup hanging to the rock above it. No hotels; no carriage roads in a part of Arcadia, which is as it should be. Epidaurus, the sanctuary of Esculapius, is briefly described, and a plate represents the open air theatre with its banks of seats.

The publishers have done great credit to themselves in illustrating the book by valuable plates, two of which have been kindly loaned us, but, unfortunately have been crowded out of the present number.

ALGONQUIN TALES. By Edgerton R. Young. Chicago: Fleming H. Revell.

The first impression of this book is that it was written more for entertainment, than for scientific accuracy, and that some of the tales have been exaggerated. This is accounted for on the ground that the heroes of the story, so to speak, are the two children of the author, who are associated

with Indians, and the stories are represented as told to them. It has, however, been ascertained from those who know most of the Indian tales of the Crees, a branch of the Algonquins, that they are as represented. Even the story of the sea lion is one that is common in this region. The sea lion corresponds in this locality to the serpent as represented by the Algonquin tribes which were formerly situated along the chain of the Great Lakes.

Manabozho was the great culture hero of all the Algonquin tribes; he was not only the chief divinity and culture hero, but he was the creator and preserver and first man, corresponding to Noah, Menu; Greek, Minos; German, Maumus, and Egyptian, Menes. The serpent also varies from the great fish, or whale, to the dragon, the sea lion, the feather-headed serpent, and the ordinary snake. We find that Manabozho was swallowed by the great fish in Lake Michigan, and the sea lion in Lake Winnepeg; but he survived the flood, and became the new creator. The method of creation is dwelt upon among the Algonquins of the Great Lakes. It was by sending the animals down to get the soil from the bottom, out of which the new world was to be created. After several trials it was accomplished by the muskrat. The handful of soil became an island, and then grew to be a continent. The twigs which were planted in the mud, grew to be great trees. This part of the story is not given in this book, but it would be more satisfactory, if it had been, or some reference had been made to it. The story of the two brothers who threw rocks at one another, is a familiar one, but the name of the streams, is not given. These rocks remain in the streams, and are reminders of the contest. It would be interesting to know whether there were any stories connected with the far north.

The picture of the wolf, or coyote, and of the serpent is given, and it illustrates another story, which is found not only among the Algonquin, but even among the tribes of the Northwest. Here the term of king is used, but it is a misnomer, for there is no king among the Indians. The representation is that the fire was preserved in the heart of the earth, surrounded by four walls. Each wall had a single door. The first door was guarded by a snake; the second, by a mountain lion; the third, by a grizzly bear, and the fourth, by Sistine, another culture hero. This is only a modern version of an old story which spread from the Atlantic to the Pacific. There were no walls and no doors in the original story. It is a question whether the author, in telling the story to children, used the word "door" and "wall" as terms which were suitable for the times and circumstances. The picture of the fire stolen out of the centre of the earth must certainly have been drawn from the imagination, for no such conception was common among the Indians. The skillful hunter, who could disguise himself, is not so common. The evil spirits, or Windagoes, who dwell on the land and sea, are somewhat novel creatures, though the term "Manidos" used by the author is really "Manitous," and should be spelled so, though the pronunciation is the same in both cases. Here Windagoes, or cannibals, are referred to by the tribes of the Northwest coast, but they generally have individual names, rather than general names. They are not spooks or scare bad boys, but are genuine fabulous monsters. The picture of the rock rolling after the wolverine is also novel. Of course there were live rock in the folklore of the Indians; some of them could talk, others had human faces inscribed upon them. This rock could not talk or run, but he could roll. He rolled down the mountain and overtook the wolverine. It would seem as though the story must have been adapted by the author to the children. The addition to the story is that the great black cloud took off the fine coat of the wolverine, but the frog and the mouse sewed the coat up again. This is a new story not found in other myths. Is it genuine or not? The magic sticks and the monster giant which was overthrown by the magic rabbit stick, is also a new story; as was the story of the giant, who was the keeper of the tobacco, and who was asleep among the bales of tobacco. The idea that the rattle on the tails of the snakes was made from wampum, is also a new one. Who invented it?

The story of the giant grasshopper, which was a great giant that could change into a grasshopper, is also new; as is the story that Manabozho

could leap from mountain to mountain. He was the greatest grasshopper of all. Where does this story come from?

The tall ghost, called Aunungitee, who stole the boy, is also new. The orphan boy, who was treated shamefully by the family, but was befriended by a little girl, is interesting. This orphan saw the great man in the moon, and the man in the moon came down into the world and thrashed the boy, but it was the boy's training school. He was afterward prepared to overthrow his enemies; fling them against the rocks; dash out their brains. He married the little girl who had befriended him. The author must have drawn on his imagination for this story.

There is another picture which reminds us of Sinbad the Sailor and Baron Munchausen's expeditions. This time it is a buzzard that Manabozho (Manabozho, more correctly) was able to mount and ride, while the buzzard circled around and rose higher and higher. The addition to the story, is that the buzzard saw a dead deer from the distance. He alighted, and like a greedy bird, he began to devour the deer and fairly buried himself in the flesh, but by this means he lost all the feathers from his head and neck. The latter part of the story is natural enough, but the first part seems to have been borrowed.

The book is an interesting one, and upon the whole conveys a good idea of the myths and stories which prevailed among the different Indian tribes. For popular effect the changes and modifications of the old stories, putting them into modern garb, is not so objectionable; but the ethnologist must take them with a grain of salt, for they fail to represent the old stories as they were originally told. The book is well adapted to children, and probably will awaken an interest among them in native mythology; if so, it will accomplish its object. The book is full of illustrations which are suggestive, though one or two of the plates might have been modified, so as to more truthfully represent the real myth. Among these: the one representing Manabozho leaping into the mouth of the whale or sea lion.

A door has been opened into the great magic cave in which there sparkles so many of the beautiful things and strange creatures, which the native tribes were accustomed to see and talk about to their children. We may picture the little Indian boys and girls gathered into the centre of the wigwam, with some motherly old squaw entertaining them night after night and filling their imaginations with strange things. The scene is repeated, though in a modified form, when two white children are entertained by a story-teller among the Crees, for the stories are always charming, even when heard or read by the older people. It is to be hoped that this is the beginning of books like it, for the woods were full of such stories in the early days.

CHAMPLAIN, THE FOUNDER OF NEW FRANCE. By E. Asa Dix. Appleton's Series of Historic Lives.

BRANT AND RED JACKET. By Edward Eggleston. Boston: Dodd, Mead & Co.

HOW GEORGE ROGERS CLARK WON THE NORTHWEST. By Reuben Gold Thwaites. Chicago: McClurg Co.

These three volumes, along with the History of Anthony Wayne composed by John R. Speers, may be said to cover the entire history of the states of New York, Ohio, Indiana and Illinois, and to furnish a general view of the condition of the country before and during the War of the Revolution and the war of 1794.

The life of Champlain, as written by Mr. Dix, is very interesting and presents the noted man in a new light. In fact his personal traits are brought out more clearly by the little volume, than by any other thus far written. He is a great man wherever he appears, and his character is worthy of the admiration of all. He was very different from La Salle and had fewer enemies, but there were difficulties in his way which he was able

to overcome, and he left his mark upon the country as perhaps no one ever did. There are two portraits in the volume, one of which represents him at the age of 40, and the other at 65. They are evidently correct. They show the calmness, the balance, and the reserve force of the man. The book conveys the same impression as the portraits; the detail of the statue is carried out to perfection. The statue is brought out with much painstaking and with a close study of the original.

The early home and life of the explorer is described in the first three chapters; the voyages occupy three more chapters; the founding of Quebec, the victories over the Iroquois, and the beginnings of Montreal three more chapters; the search for the North Sea and the winter among the Hurons three more chapters; the incredible delight felt as Champlain returned to Quebec is described in another chapter; the passing of a knightly soul occupies the last chapter. Nothing more needs to be said about the book. It is an excellent portrait of the man, and contains a good description of his work.

The volume on "Brant and Red Jacket" is a valuable contribution to the history of New York. It covers the same ground that the voluminous works of Col. Wm. L. Stone do, and the work of the younger Wm. L. Stone on the "Life and Time of Sir William Johnson," and the one by Lewis H. Morgan.

It is certainly convenient to have the material of all these histories condensed into one volume of 370 pages, and to have the panorama roll before the eyes, while an interesting writer like Miss Seelye Eggleston, the daughter of Edward Eggleston, tells the story and describes the scenes. The history is all of it full of tragic interest, and is not as familiar to most readers as it ought to be. Events followed one another in quick succession, beginning with the people of the long house; battle in the woods by Champlain; attacks upon a Seneca town; description of Father Jacques; the destruction of the Hurons, and the work of Champlain. It then turns to the account of Brant and his birthplace; his first battle; the Battle of Niagara, and describes Sir William Johnson and his castle. The Battle of the Cedars, the Siege of Fort Stanwix, the Battle of Oriskany, the war on the borders, and the Battle of Cedar Valley, all come before the eye in graphic colors, and are fully explained.

Col. George Rogers Clark incidentally appears; next Brant and Red Jacket appear together. Brant gives battle to General Sullivan; he appears to be merciful to his captives, and the impression as to his cruelty is modified. He was a great man among the Indians, and was not so bad a man as some of the whites imagined. Red Jacket was a very different man; he was an orator and not a warrior. He plotted against Brant. Brant remembered his old teacher Prest. Wheeler, and showed that he was susceptible to good influences. Red Jacket dreamed that he ought to be a chief, but he was more of an orator than a chief. The Battle of Chippewa is described. The last chapter contains the confession of Red Jacket in the following picturesque language: Red Jacket was once a great man. He was a lofty man among the smaller trees of the forest; but after years of glory, he degraded himself by drinking the fire-water of the white man. The Great Spirit has looked upon him in anger, and the lightning has stripped the pine of its branches."



PALACE AT PIEDRAS NEGRAS. WITH COLUMNS AND CORNICE OVER DOORWAYS.



PALACE WITH COLUMNS IN THE UMASINTLA VALLEY.

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DISCOVERIES IN EGYPT.

A VERY EARLY EGYPTIAN INSCRIPTION.

BY JOSEPH OFFORD.

In a recently published number of the well-known French archæological journal relating to discoveries in Egypt and Assyria, the "*Recueil de Travaux*," Professor Naville has translated and commented fully upon the now celebrated inscription known as the "Stele of Palermo," because it is preserved in the Museum of that city. Where the monument was first discovered is not certain, but M. Naville shows convincingly that it originally emanated from Heliopolis, or On; because the hieroglyphic texts upon it are really the religious annals of that famous city, at an extremely early period of its history. The chronological basis upon which the records it presents is founded is not one of the Pharaonic reigns, but a cycle, or period, of religious ceremonies. There is no doubt we must place the date of its composition in the fifth or sixth dynasty.

The writing is engraved upon the two sides of the stele, one giving the before-mentioned list of sacred fêtes, for a space of time, under the reign of Seneferu, and upon each of the holy days which came round in a fixed annual cycle, though they, like the present Mohamedan religious observance periods, did not necessarily occur upon the same date in each succeeding year, but may, owing to the sacerdotal, or ordinary year, not coinciding with the sidereal year, have happened upon different periods of winter or summer, until the annual error corrected itself, and commenced again. Associated with the statement of the recurrence of each of the catalogue of fêtes, we are given the height of the Nile for that day.

One very valuable historic fact derived from the inscription, is that the priestly historians of Heliopolis did not consider that the period known as that of the "Followers of Horus" terminated with the accession of Menes, that is, with the beginning of what is known as the first dynasty, but with Seneferu. It is strange that if this was so, it coincides practically with the epoch when the Pharaohs first began to use the well-known form of the Cartouche for royal names; and when the

Thinite supremacy ended—the regal capital was transferred to Memphis. If this new view as to the date for the end of the "Horus Followers" *régime* is the true one, it will be at once apparent that all the early archaically written royal names found by Petrie, Amelineau, De Morgan and Quibell (as to the date of which being either anterior or just subsequent to Menes has given rise to so much dispute) will—although they may be as M. Naville and some Egyptologists have considered, of first or second dynasty kings—fall within the Horus tribal period.

The text upon the other side of the Stele is an enumeration of the donations made by various kings to the temples they had built, and also refers to a change of reign and enthronement of some of these kings.

It appertains to six Pharaohs in all, Shebseskaf and Neferkara or Keki, being the two alluded to more particularly. The others are Onserkaf, whose favorite deities he endowed, and are like the others mentioned, Heliopolitan ones. Another, (Sahoura), speaks of a temple he gave presents to, called Abti. This shrine is mentioned on one of the very archaic cylinders found at Abydos. It is very curious to find that at this primitive epoch, he imported articles from Pount, for it corroborates in a singular way, M. Loret's recently expressed theory that the "Followers of Horus" were in some manner connected with Pount. A king's name is given as Souhetes; this may be some new early Pharaoh, or another title of Neferkara, from the manner in which it occurs. M. Naville modestly mentions his monograph as a "preliminary study" of the texts. Probably, as has been the case with all such inscriptions, other documents will be adduced to illustrate its meaning, and further progress made as years go by. In conclusion it should be said that the Stele has previously been described by Dr. Schafer.

Quite independantly of Prof. Naville, Herr Sethe has published an important discussion of the "Palermo Stele," in Vol. III. of his "Untersuchungen." He attempts to restore the arrangement of the missing parts. He thinks the top line alone gave the name of 150 kings, half of upper and half of lower Egypt, and all prehistoric monarchs, and that it recorded also 650 years from Menes to Seneferu.

A NEW PAPYRUS.*

The sands of Egypt, which have for so many years yielded up many thousands of Greek, Latin, and Arabic manuscripts, are now commencing to present us with Hebræo-Aramaic documents of the greatest interest. Only last year a papyrus was published by the "Society of Biblical Archæology" containing the Jewish "Schema," a text probably of the first century, throwing a great light upon the differences between the

* A few papyri in the Petrie collection mentions Jews in Egypt in Protomaic time. One speaks of their having a city in the Fayoum named Samaria.

Masoretic and Septuagint versions of the Pentateuch. The same society has also printed a papyrus with numerous Hebrew names and a short text, and some other Aramaic belonging to Professor Sayce. A small number of Aramaic papyri are also in European museums, especially Berlin.

Last year, however, it was announced that Herr Reissner had obtained several Aramaic papyri for the University of California, and that a most important one from a dealer at Luxor had been acquired for the Strasburg Library. This manuscript has now been deciphered and edited by Professor Euting, and is of great interest, both historical and philological. The manuscript is a report of some Persian official to the satrap of the Persian monarch in Egypt relative to an uprising of the natives against their conquerors. It is dated "the fourteenth year of Darius," and Professor Euting shows that it cannot be Darius I. that is intended but Darius Nothus; B. C. 411-410 being his fourteenth regnal year.

This monarch, in order to conciliate his Egyptian subjects, had added to the edifices of the temples at Edfou, the Serapeum and the El Kharjeh oasis, but in the second half of his reign there was an insurrection, and some Saitic princes governed more or less of the country, among whom was Amyrtaios, who, aided by Greek warrior mercenaries, expelled the Persians. The latter being weakened by a rebellion against their governor Tissaphernes in Lydia, also there were political troubles in Caria. A good deal of indirect light is thrown upon these intrigues against the Persian supremacy by the so-called prophetic Demotic papyrus edited many years ago by M. Revillout. It was probably a "call to arms," a sort of secret "toc in" disguised under the form of pretended previous prophetic utterances passed from hand to hand among the Egyptians. Beyond the historical events coinciding with the date assigned to the new papyrus its writing is further evidence of its age. The forms of the letters are not nearly so archaic as those in the Aramaic writing of the Sakkara stele, in Vol. II. of the Corpus of Semitic inscriptions, which was written in 482 B. C., the fourth year of Xerxes.

The name of the Satrap occurring on the papyrus is Arsam. In the "Persæ" of Æschylus there is a Persian named Arsamas, and the fragments of the historian Ktesias tell us a Persian was Satrap of Egypt.*

Coming to the text of the papyrus, it will be better for its contents to be threshed out by Semiticists before giving a full translation. It speaks of "Hanub," meaning the Serapeum, and gives the titles of three kinds of Persian functionaries, illustrating similar officers mentioned by Daniel; one of them derived from the Persian word "gauschaka," from "gaus cha" ear, or to listen, is a similar title to that of a series of court

* Another Aramaic papyrus has a name "Mitravaheit" as a Persian governor of Egypt, a name closely connected with the Vashti of Esther.

officials in the Egyptian hierarchy, "The eyes and ears of the Pharaoh." Another word used for province is also the one in the Old Testament, and a third used for an "edict," or letter, from the royal chancellery occurs in the book of Esther.

A most curious fact is the finding of the Hebrew word Y(a)hv(e)h, or Jehovah.

There are several fragmentary Hebrew papyri displayed in the Museum at Cairo in the upper gallery, and it is to be hoped more may yet be found in Egypt this season.

TWO NEW CUNEIFORM DISPATCH TABLETS FROM TEL-EL-AMARNA.

No series of ancient records preserved until removed in modern times beneath the sands of Egypt, has ever been more singular or valuable, than that of the hoard of cuneiform tablets found some twenty years ago at Tel-el-Amarna. The literature about them has been so voluminous that it may be said, "and all the rest of their acts and all that they did, are they not written in the guide books and the histories of Egypt?" They were, as is well known, a series of dispatches to the Pharaohs from Palestine, Syria and Western Asia, of the time of Amenophis III. and IV., preceding in date the Hebrew Exodus and throwing more light upon the geography, ethnology and language of Western Asia at that epoch than any other monuments. The collection was sadly scattered, the majority going to British and Berlin Museums, a few to Russia, a very fair collection remains in Cairo, and one or two are in private hands. A single member, probably a duplicate of a tablet not yet recovered in Egypt, was found at Lachish, in Palestine.

At the time it was thought the fellaheen kept back some of these archives of the Pharaohs, a view confirmed by the appearance of another tablet published by Père Scheil a few years ago. The hope that more of them will turn up is very keen, because it is by means of a series of these documents, written in the unknown North Syrian language of Mitanni, that Professor Sayce is deciphering the Hittite hieroglyphs. One tablet also which served the Egyptian scribes as an "Assyrian Reading Book," only half of which has yet come to hand, gives a very ancient Babylonian legend. In the last volume of the "Bulletin de l'Institut Français au Caire," we are pleased to say, M. Chassinat is able to give photographic copies of two more of these tablets, which tends to indicate that still more of them will be forthcoming.

Among the tablets previously published in the series preserved at Cairo was a letter from an Assyrian king Assur-uballat, who reigned about 1400 B. C. Singularly, one of the two new dispatches is a second message from the same prince and reads as follows: "To the king of the land of Egypt, says Assur-uballat King of Assyria to thee, to thy house, to thy wife, to thy chariots and soldiers, salutation.

"I have sent a messenger (envoy) to visit you and your country. Things which aforetime my fathers never forwarded to you see here, I send you. A splendid chariot and a pair of horses; and further a *uhina* in pure lapis (lazuli) as presents for you I forward. As to my messenger, receive him well, let him come and return to me."

The word *uhina* denotes some kind of carving, a small pillar or decorative object.

The second of the new cuneiform written dispatches is from Palestine, from a Governor in the Egyptian service there whose name is new to us; one *Yabisar*, reminding Semitic scholars of two previous patronymiacs upon these tablets—*Yapi-Adda* and *Yaditira*.

This official says, "To the King my lord says *Yabi sarru* thy slave, seven and seven times at your feet I bow. What the King has ordered me I have performed. Full of fear is all the land before the King's soldiers. I have levied my troops, ships are at the disposition of the King's soldiers, and whosoever is a rebel, no house, or hope (or life) shall be left him. See I have safeguarded the position that the King my lord (has confided me). The face of the King my lord be toward his servant who is devoted to him."

The translation here given is from that of Père Scheil, whose commentary is of great value to the student of these Tel-el-Amarna documents.

Whilst these two new tablets have come to light, two others have been unearthed by Herr Sellin in his excavations at Taanach in Palestine. Both of these contain dispatches addressed to one Istar-Wasur by persons named Guli-Addi and Ahi-Iawi. One letter mentions Rubuti, a place several times alluded to in the Tel-el-Amarna documents; it was apparently near Gezer and Gath. Ahi-Iawi says he has been in a place called Gurra, and mentions a city called Bûritpi. Dr. Peiser, in commenting on these texts, suggests that Ahi-Iawi may be a local form of writing law-ahi, and that he is none other than Iapahi, a known prince of Gezer.

ANCIENT CITIES OF EGYPT.

BY WILLIAM E. CURTIS.

[Extracts from His Correspondence to the Chicago Record-Herald.]

We know more about the history of Egypt than of any other of the ancient countries except Palestine, because of the inscriptions upon the monuments and tombs and the rolls of papyrus manuscripts which have been discovered in the coffins of mummies. The vanity of the Pharaohs has been very profitable to modern scholars, as many of them took the trouble to engrave upon imperishable materials in cryptographs, which we are now able to decipher, accounts of their

careers and achievements, more or less in detail, which necessarily involve the history of their times.

The writers and artists who were employed by the Pharaohs to perpetuate their fame never hesitated to give them what they paid for, but, after making reasonable deductions for egotism and flattery, we have been given an almost continuous history of nearly all the several dynasties that ruled over Egypt from the time of the demi-gods and the invention of pictography—the oldest form of expression in writing known. It is pretty well established, too, that the Egyptians invented the art of writing and that our alphabet was adapted from theirs. Egyptian characters are to be found in "the *Prisse Papyrus*" of the eleventh dynasty, which is the oldest book in the world, written in the reign of King Seankkara, who lived about twenty-five hundred years before Christ. The characters that appear in this book are pronounced by the highest of philologist authority to be prototypes of the letters afterward copied by the Greeks from the Phœnicians, and by them transmitted to the Latins. Thus Egypt is not only the cradle of the alphabet, but may be considered the mother of literature.

The records upon the tombs and monuments, beginning with Menes, the first human King of Egypt, who founded Memphis and built one of the great pyramids 6,300 years ago, show that the people were seldom governed by a man of their own race. Egyptian history for nearly 5,000 years tells of a series of conquests by aliens who ruled the country for centuries at a time until they in turn were overcome and driven out by other invaders—Semitic, Ethiopian, Assyrian, Persian, Greek, Macedonian, Roman, Saracen and Turkish. There is scarcely a representative of the Egyptian race in all of the long list that has been preserved to us. Nevertheless, during all these cycles of foreign domination the people have preserved their individuality and racial features, their peculiar customs and other national characteristics—an ethnographical, ethnological phenomenon that is equally marked with the Jews.

The story of Egypt, however, as written in hieroglyphics upon the walls of monuments, palaces and tombs, is not open to dispute. The kings who built the pyramids erected monuments that cannot perish and have not been removed. There is, however, a difference of opinion as to exact dates, caused by variations of interpretation. Some scholars claim that King Menes reigned 5,867 years before Christ, which should be nearly 8,000 years from now, but others bring the date down to 4,400 B. C. Taking the latter estimate as accurate, we have at Sakara, twelve miles from Cairo and nine miles from the great pyramid of Cheops and the Sphinx, in what is known as "the Step Pyramid," near the ruins of the ancient city of Memphis, the oldest structure of human hands. This we know because of inscriptions, of which there is no doubt. It

was built by King Tehesor of the third dynasty in the year 3900 B. C.

Menes, the first of the kings of Egypt whose name we know, was an invader and got his throne by conquest. He came from some indefinite place in the North, Babylonia, perhaps, overthrew the local chiefs, turned the course of the Nile in order to have a favorable site for a city, and built Memphis, the capital of a kingdom which was consolidated from all of the countries he had conquered. His descendants reigned for about 500 years, and were followed by a generation of pyramid builders, who have left us not only their monuments, but their actual bones, which you can see scattered through the museums of Europe. The bones of Mycerinus, whom Herodotus tells us was "a just and merciful king," and who built the third pyramid at Gizeh, are in the British Museum at London.

It was the fashion of the kings of Egypt from 4400 to 3000 B. C. to erect their own monuments and sepulchers in the form of great masses of masonry. Others erected obelisks, and their successors excavated vast caverns in the living rock for burial places. There is no longer any doubt that the pyramids were tombs or, rather, mastabas. The ancient theory that they were erected for astronomical observatories and that the great pyramids were intended to serve as a standard of measurement was exploded long ago, but the method of their construction has never been satisfactorily settled. Inscriptions upon the interior walls, show that it was the tomb of Cheops, a king who lived 3,733 years before Christ, and inside the chamber there has been found an empty, coverless, broken red granite sarcophagus, in which his body lay 3,000 years until the pyramid was looted by Persian invaders under Cambyses between 500 and 600 B. C.

According to Herodotus, the king kept 100,000 of his subjects at work for twenty years continuously upon this monstrous sepulcher, some quarrying stone in the Arabian mountains, others transporting it down the Nile upon rafts and flatboats, others drawing the immense blocks along causeways, which had been built for the purpose, to a great rock which forms the core of the pyramid.

ALEXANDRIA.

Nearly everybody who comes to Egypt skips Alexandria, which is a great mistake, because it is one of the finest ports on the Mediterranean and is full of historical reminiscences. Some one has said that Alexandria is a city of sites instead of sights, which is a clever epigram and almost true, because you can only see the places where the great buildings stood. Nothing is left of them, except here and there a column or a piece of carved marble, which has been utilized in the construction of a modern building. Alexandria is purely modern. It is difficult to realize that it is the famous capitol of Alexander

the Great, the scene of the splendors and sensuous luxury of Cleopatra and the Ptolemies who reigned in the golden age of Egypt. It looks very much like Bordeaux, Marseilles, Havre, and other French seaports, and for that reason tourists hurry through from the docks to the railway station without stopping to think of the memories that might be awakened during a visit of a few days.

Alexandria, after Antioch, was the headquarters of the Christian church in early times, and St. Mark lived and preached here for nearly half a century. Here, too, occurred the great theological controversies which split the followers of Christ into sects; here was the center of intellectual culture for six hundred years, and the great libraries brought together the most eminent intellects of the age. Here, too, was the southern capital of the Roman Empire, and these streets have witnessed some of the most brilliant pageants that ever astonished the world. Cleopatra and Mark Antony lived here in the greatest splendor. Julius and Augustus Cæsar, Trajan, Hadrian and Constantine the Great, were all residents of Alexandria, from time to time, and Zenobia, Queen of Palmyra, lived here enthroned from 268 to 273 A. D. Volumes have been written to tell the history of which Alexandria has been the scene from the days of its founder, Alexander the Great, to the departure of Ismail, the dethroned khedive, for Naples in 1879, with three hundred women from his harem and four ship loads of treasure which he stripped from the khedival palace.

Steamers for India, Australia and other points beyond the Suez Canal land their passengers at Port Said, who go to Cairo by rail. Steamers that go no farther than Egypt have their entrepot at Alexandria, which is the great port of the country and handles 80 per cent. of its foreign commerce. The harbor is one of the best on the Mediterranean and its natural advantages, which are equal to those of Marseilles and Naples, have been improved by vast engineering works, which are of great historic importance as well as interest to the engineer. This port is a monument to Alexander the Great, for he made the harbor by the construction of a vast mole called the "Hep-
pastadion," joining the Island of Pharos to the mainland. While we hear very little about this work, it is one of the most extensive and brilliant triumphs in the history of engineering; as great in its way as the pyramids, and even greater than the construction of the Suez Canal.

CAIRO AND ITS UNIVERSITY.

There is excellent railway service between Alexandria and Cairo, as good as any in Europe or the United States, and except for the sand and dust, which cannot be avoided in crossing a desert, the journey is quite comfortable.

The University of Cairo, El Azhar, as it is called, for cen-

turies has been one of the most famous in the world, and wherever you go in Mohammedan countries you will hear it spoken of as a great institution, one of the greatest, oldest and most influential in all the universe, with a faculty of wise, learned and progressive men. It is the only institution for higher education under the care of Islam, and young Mohammedans of wealth and future responsibilities are sent there from every land in which faith in the prophet is proclaimed. It is perhaps the oldest of all universities, being the outgrowth of the Serapeum which was established at Alexandria by Ptolemy Soter 300 B. C., in connection with the great library. Saladin, however, was the actual founder of the present institution, about 1170. He gave it its present home, which it has occupied ever since, and there is not the slightest doubt that at one time it did exercise a powerful influence throughout the civilized portion of the world.

It is not what we would consider a university. At least it is not arranged or conducted upon the plan which we are accustomed to; but it has from 10,000 to 12,000 students from all parts of Turkey, Syria, Algiers, India, Bokhara, Turkestan, Afghanistan and the other Mohammedan countries. Most of them, however, are from Egypt and the countries immediately surrounding it.

The faculty numbers about 350 moulahs, or priests, many of whom are absolutely ignorant of every branch of learning except the theology of the Koran, which they teach after the interpretation of the sect to which they belong. Several of the professors have a wide reputation for scholarship, and perhaps there is more profound knowledge of the oriental languages and literature among them than elsewhere. Not long ago one of them accepted a call to a chair in an American college, and carries with him an ability and knowledge of Sanscrit and the ancient and modern tongues of the East that is perhaps unequaled by any other living scholar.

STONE TOWERS.

The trip up the river is of great interest, abounding in many historical spots, and in strange and superb scenery, and as the domes and minarets of picturesque Cairo gradually disappeared in the distance, it became really beautiful, with the flat, sandy wastes reaching as far as the eye could see on one side, and the fertile irrigated bottom lands, hemmed in by precipitous rocky ledges, on the other. Along the steep sides of this eroded sandstone ledge, although several miles away, could be seen many dark entrances to caves and caverns, which no doubt in ancient times, primitive people had used for places of safety and refuge. Also on many of the small hills and promontories could be seen round stone towers, two or three stories in height, entirely separated from any other ruins, and evidently of great antiquity. I was unable to find out any-

thing in regard to their history or use, but no doubt in the early troublesome days, they were both used as watch towers and fortifications.

The necropolis of Sakkara seems to cover the whole top of this enormous tableland. It is exceedingly rich in sepulchral monuments of every kind, consisting of pyramids, and rock hewn caverns, containing tombs and sarcophagi, dating from both the early and later empires, and it is said that in past centuries, it has been a rich field for the Byzantine and Khalifs in their search for treasure, and even in modern times, many strange and valuable discoveries have been made here.

One thing, which immediately attracted my attention, was the short time in which even the most recent excavations were covered over with sand by the wind. In the heavy storms, the loose, light colored sand blows very easily across the high plateau, filling up all depressions and excavations, and sometimes piling up in large drifts, as one sometimes sees on the sea shore. In one place where a recent excavation exposed the lateral view of the layers of drift, I spent some time studying the innumerable multi-colored drifts and layers of various periods of occupation; as also the many potsherds and broken bones, which protruded from the ledge.

The outlines of the Step Pyramid, the tomb of the mythical King Zoser, of the third dynasty, strike the eye at once, on account of its unusual shape, consisting of six huge steps, each one being just six times as high as a tall man. It contains many curious and complicated passageways and chambers in its vast interior, many of them being made by treasure-seekers long after the royal tomb had been closed.

How remarkable it is, that so many of these almost inaccessible monuments of ancient times, have been systematically looted, even in the early centuries. Much enthusiasm and perseverance would be required to bore these long shafts and tunnels through so many hundred feet of solid stone.

Some distance to the southwest, stands the Pyramid of King Onas, the tomb chamber of which was found in 1881, closed by three massive doors of granite. Opening these with much difficulty and expense, the explorers found three chambers in the interior, which contained many funeral inscriptions of great interest. In one of the chambers, the walls of which were of oriental alabaster and decorated with many mural paintings in bright colors, they found the huge granite sarcophagus of the king.

MEMPHIS.

We arrived at the site of ancient Memphis, which, to say the least, was very disappointing. Before us lay a dreary sandy waste, scantily shaded here and there by palms; the ground covered with blocks of rudely trimmed granite, broken bricks and potsherds. No one would know from the general appearance of this region, that here once stood one of the largest and

most renowned cities of ancient times. Heaps of debris and crumbling walls of sun-dried bricks of Nile mud, are all that now remain of the once famous city, and its many magnificent public buildings, palaces and temples. It is said that the buildings, which were made of hewn stone, were taken down many centuries ago, and the stones removed to the other side of the Nile, for the construction of the modern palaces. No doubt this old city and its crumbling ruins have been pillaged many times in the past centuries before its many rich treasures and relics were exhausted, and even now, I believe that systematic explorations and excavations by trained experts would bring to light many objects of interest to the whole world.

MASTABAH OF TI.

As we proceeded on our journey and passed through another palm-shaded village called Mt. Rahineh, we arrived at the site of the remarkable Mastaba of Ti. It is a rectangular mausoleum of solid masonry somewhat resembling a low truncated pyramid, and very little of the exterior is now visible. Ti is mastaba, like the others on this plateau, which we were not able to enter on account of their being entirely covered up by sand, contains in the first chambers, colored bas reliefs of the members of the deceased family, together with some short, simple inscriptions peculiar to that period, describing the dignities of the deceased and the offerings presented in his honor. In the other chambers, interesting inscriptions are found, such as lists of offerings at various seasons and festivals; and elaborate representations of the deceased's favorite pursuits and of his most valuable possessions. As we entered the gloomy chambers far underneath the surface of the sandy desert, and examined by the dim light of our candles, these remarkable inscriptions and colored bas reliefs, it was difficult to realize how they could have accomplished such accurate and perfect work as this, so many centuries ago. Elaborate scenes, such as bird-catching, fishing, the vintage, glass-blowing, carpentering and ship building, gold washing, papyrus making and writing are depicted with great care and accuracy, perfectly illustrating the manners and customs which were, no doubt, in vogue during this early stage of the civilization of man.

ROCK-HEWN TOMBS.

The probable development and origin of these strange tombs is of interest. Egyptians who were renowned and of great wealth, generally began early in their lives to plan their tombs, to make them worthy of their social status, and the longer they lived and the more powerful and wealthy they became, the more elaborate were their tombs. The rock-hewn structures were generally completed during the life-time, and then the work of the draughtsman and decorator began, the smooth stone wall being divided up into squares and sections

with red-chalk, with pictures and hieroglyphs, which were cut into relief by the stone mason, and last of all, decorated in colors by the painter. When the proprietor of the tomb died, his remains were deposited in the tomb at once, and the task of decorating ceased, whether finished or not.

SITE OF MASCOUTEN REDISCOVERED.

BY REV. THOMAS CLITHERO.

In Wisconsin's prehistoric period there existed an Indian city with the musical name of Mascouten. It was located, according to Dablon (1675), "in the midst of a terrestrial paradise," the way to which, over the stony rapids of the lower Fox River, is "likened to the way to heaven." Situated upon a commanding bluff, at the junction of many rivers, with a phenomenal range of vision over prairies green and park-like groves, it was a land of game and corn, of fruit and flowers, a land of strategy, of commerce and of material plenty.

The Mascoutens were the celebrated *gens de feu*, or "Fire Nation." Their city existed through an age of mighty hunters and warriors; through a series of momentous and violent transitions; under three flags and as many races; through an era of changes, marvellously rapid, from barbarism to civilization, and during all that period its people were associated with every great event and every heroic name of those stirring times. Here Nicollet (1634), the first white man to tread the soil of Wisconsin, paused on his journey to the "Great Water," and for some inexplicable reason turned back within three days' journey of his quest, without having solved the mystery of the Mississippi, the Vermilion Gulf or the China Sea.

Here Marquette and Joliet (1672), Hennepin and De Luth (1680), La Hontan and Perrot (1688), enjoyed hospitality; and here, at a later date, both Perrot and De Tonty, Morand and De Lignery, provoked hostility by thirst for conquest and the greed of commerce.

When the smoke of battle of the French and Indian wars had blown away, it was found that amid the confusion, Mascouten had disappeared. Its people had vanished and left nothing but a name. No trace of the location of the one, or the whereabouts of the other, has until now been found. A city of twenty thousand inhabitants, with thirty suburban villages, containing a dozen tribes, with three whole nations and as many languages, had vanished like the lost tribes of Israel and left not a trace of themselves or their dwelling place. Since that day one prominent question has agitated Wisconsin antiquarians, with an interest enhanced by mystery, Where was Mascouten? Where was the Mission of St. James? Marquette (1673) in his journal thus answers this question:

"We knew that at three leagues from Mascouten was a river which discharged into the Mississippi; that the direction to it was west-southwest, but that the road is broken by so many swamps and small lakes that it is easy to lose one's way, especially as the way leading thither is so full of wild oats (rice) that it is difficult to find the channel." With this statement every other ancient author agrees. Hennepin makes the journey down the crooked, rice choked stream six hours' long. La Hontan traverses the wild rice jungles in half a day. Featherstoneaugh (1835), the English geologist, warped his canoe through the sea of wild rice and mud between 9 A. M. and 2 P. M. Shea quotes Allouez as finding the Kickapoos on the Wisconsin River four leagues from Mascouten. Nicollet was three days' journey from the Mississippi down a large stream. He evidently stood at the Portage. Father Crespel, of De Lignery's (1770) expedition, found Mascouten on a little river leading to a large river which connects with the Mississippi. He describes exactly the south, or Portage, branch of the Fox River.

It might seem as if this language were sufficiently explicit to prevent all controversy, and that the place located and described by so many authors should have been found long ago. The different voyageurs, however, to the ancient city and beyond, having different errands and different terminals to their journeys, give certain incidental references or faint allusions which to non-resident authors have seemed discrepant, but to the habitants are supplementary and confirmatory.

Hennepin and Du Luth, who approached Mascouten from the south, find the city located directly on the banks of a lake, or lakes, which were intersected by a phenomenally crooked stream leading from the Portage. Allouez and Dablon, however, who arrived from the north, beach their canoes on the banks of a river which was a "short league" north of the town. From thence they make their way on foot to Mascouten over prairies and woodlands one and one-half miles south. Marquette and Joliet, on the other hand, who approach from the north, but are going, not to Mascouten merely, but beyond to the Portage, have the curiosity to leave their canoes in the shallow, rice choked lake intersecting the stream of Hennepin, while they go and drink of the celebrated mineral waters on the river which Dablon tells us is about a mile and a half to the north, and which Marquette says is not far from that town.

The Baron la Hontan had still greater curiosity to explore this river of Allouez and Dablon, which came from the west and north, and which he accurately delineates on his map, spending four days in the upward and downward journey without calling at Mascouten, one and one-half miles southward, until his return. This journey was taken for the purpose of examining the fortified beaver hunters' camps of the Outagamies, whose village is definitely located at the forks of the river which he describes, and it is now that we hear for the first

time of the Outagamie River, subsequently changed to Fox River, which was the nickname of the tribe. On his return down this river of the Outagamies and of Dablon, which flowed to the north of Mascouten, La Hontan lands on the banks of the little lake of Hennepin and Marquette. Here he finds the Captain General of all the tribes of Central Wisconsin, a title accorded only to the Mascouten chief, and is taken by him to the summit of the neighboring bluffs, where from the famous outlook he can see the disposition of the beaver camps. After two days La Hontan proceeds to the portage up the little rice fringed stream.

It thus appears clearly that there were two streams at Mascouten whose confluence was not far below the town.

The one was a river flowing from the west and a mile and a half north of the town. The other was a rice choked stream of swamps and shallow lakes extending directly under the southern wall of the town, flowing from the Portage. The western branch was anciently considered the parent stream, and was called by the Winnebagoes the Neenah, or river. It was named by the whites, however, the Outagamie, the Reynard, or the Fox. It is still denominated by a piece of stupid geography the Neenah (*i. e.*, the river) Creek. The southern branch, which has usurped the name and rank of the western, was anciently called Hihorokera, or Running Swan. The French boatmen with Father Hennepin attempted to kill a running swan near Governor's Bend and tipped over their canoe, hence, apparently, the name.

All the maps of the period, except Thevenot's, omit the Running Swan. All of them, except Joliet, describe the Neenah alone. It will thus be seen that modern geography has reversed the ancient in every particular, and in the confusion of terms the key of the situation has been lost. The Hihorokera, which was ignored anciently, is now magnified into the Fox River. The river of the Outagamies, or Foxes, described anciently as the parent and only stream, is now reduced to a creek and its existence forgotten. To add to the confusion, a modern canal has been dug from Portage to Fort Hope, running sometimes a mile away and from three to six feet lower than the ancient bed. Into the bed of this new channel the waters of the Swan have been drained. The shallow lakes have all but disappeared. A stream of surplus water from the Wisconsin pours into the big ditch, whose current is held back for navigation by the government locks and dams. Here, then, is the modern Fox River, which has little connection with the ancient Neenah or the Swan. Only an old pioneer whose life has been spent on the upper river, and whose studies have been pursued on its banks, could ever hope to find the "clew of the maze." Summarizing the data we now possess, deducting one-third the distances for the crooks of rivers and trails, we have the following exact calculation:

Mascouten was five and one-half miles north of the Wisconsin Portage. It was four miles north of the Fort Winnebago Portage. It was one and one-half miles south of the springs of Corning on the Neenah. It was one and one-half miles southeast from the old forks of the Neenah, where the Outagamie village stood, and one-half mile west of Governor's Bend Canal and locks. It was therefore exactly in Seymour's Valley, at the head of Mud Lake, on the banks of the Hiho-rokera, or Running Swan. The fortification mounds which supported the palisades of the fortress are indispensable to the argument. These have been sought diligently all through the Upper Fox Valley, but cannot be found. They stand revealed at Port Hope without the seeking, scattered over two square miles of territory, showing wonderful military skill in their construction. Weapons of stone and copper, and one of bronze of exquisite workmanship, have been found sown like dragon's teeth over the surface of the soil. Coins ranging from 1686 to 1786 have been turned up by the plough. Indian corn hills and garden ridges furnish evidence of former cultivation. Fretted river landings and crumbling trading posts give proof of ancient commerce. Seymour's Valley was a natural fortress, a sort of Indian Gibraltar, vastly stronger by nature than the modern post of Fort Winnebago ever was made by art. Its front was protected by four lines of defence—an impassible swamp, an unfordable river, a precipitous bank and a palisaded wall. Its sides were sheltered by lofty bluffs. Its double outlet in the rear was commanded by a central buttress of rock. A spring brook flows within the inclosure. Innumerable fountains spring up in the deserted river bed. The waters never freeze in winter. They are never warm in summer. Even natural drainage was perfect, owing to the shape of the soil.

From the bluffs of the old Mascouten on the Swan and on the Neenah the outlines of seven counties are still visible. Far as the eye can reach and beyond the range of vision, no limit could be discovered to the vast prairies and groves of oak. The Fire Nation had learned the art of beautifying the landscape without toil, and clearing the timber without labor. Under these massive oaks and under those sheltering bluffs the Mascoutens pitched their many wigwams.

Both Allouez and Bablon (1669-1675), and Marquette and La Hontan (1673-1688), allude to the marvellous range of vision from the summit of the line of bluffs of which Kay Poseeda on the Neenah was one terminal, and Mascoutens Bluff on the Running Swan was the other.

Just south of Rocky Point is Battle Hill, the probable scene of the first Fox-Mascouten versus Iroquois conflict mentioned by La Hontan, both of which were fought on the same day with varying fortune. We call this the battle of Kay Poseeda (Point of Rock). Both the copper spears of this collection, two battle axes and a half dozen stone lances, nearly all broken

at the shaft and of a material and form strange to Wisconsin, were found upon this lofty bluff. The choicest axe was found there recently in a stone pile by a passer by, showing that the owner of the land did not know what it was, and indicating that there are probably doze is more yet to be picked up by more intelligent investigators.

THE PHILLIPINE TREE-DWELLERS.

The Philippines may not boast of a "wild man" just like the popular conception of the man from Borneo, but they contain tree dwellers quite as much as



TREE DWELLING.

does Borneo. Indeed, it is probable that the tree dwellers of northern Luzon are close kindred of the Dyaks of interior Borneo, who live above the ground. In both cases those who find it advisable to live where they can drop rocks, sticks, etc., on invaders' heads are offshoots of a head-hunting race. It is true that the most thorough-going head hunters of the Philippines, the Igorrotes of Bontoc, a little province in the north central mountain chain of Luzon, live in houses built on the ground, but at their altitude few trees grow save mountain pines, and natural conditions have made them forget their tree-dwelling habits generations ago. The Luzon tree dwellers live further down, on the eastern slope of the mountains, even down in the valley of the Rio Grande de Cagayan. They are cousins of the Bontoc Igorrotes, and doubtless cousins, longer separated, of the Borneo Dyaks.

These tree dwellings are not permanent homes of the people, but are generally used as places of refuge when the villages or houses on the level below are attacked by an enemy. There are, however, many localities farther East where whole villages are built upon tree tops, as the people are so beset by wild animals and venomous reptiles that they are obliged to resort to the tree tops for safety. In this way they are able to sleep securely at night, and at the same time escape the heat and malaria which prevail.

The cut, however, shows the skill which this rude people exercise in house building, for it is certainly much more difficult to build a house on a tree top than it is on a common level. It may be that the experience was gained by building the houses on platforms above the water.

ARCHITECTURE IN THE PROTO-HISTORIC AGE.

BY STEPHEN D. PEET, PH. D.

We have in a previous article described the rock-cut structures which are found in the wilderness of Sinai, in the region of Mt. Hor and in close proximity to the ancient city of Petra, a city which shows that the highest style of Roman architecture had been introduced into the midst of the desert and had covered the barren rock with the adornments of art. We now continue the subject, with a view of showing the age and period to which these rock-cut structures belong.

The point which we make, is that stone monuments and megalithic structures belong to the prehistoric period and constitute the beginnings of that period, but there were other structures which belong to the proto-historic period, and still others to the historic period. It may be said that the archæologists have all of them argued for the existence of a prehistoric age, and have recognized the difference between the epochs or divisions of the age, these epochs being founded upon the study of the rude stone monuments, when classified according to their characteristics and their dates. The order adopted is as follows: First, caves; second, kitchen-middens; third, mounds, tumuli and barrows; fourth, lake-dwelling, cromlechs, alignments, stone circles and crannogs, and fifth, towers. These followed one another in quick succession, and marked the stages through which society passed in prehistoric times. They, however, give very few hints as to the beginnings of historic times and furnish no evidence as to the dates in which history began.

In reference to the proto-historic period very little effort has been heretofore made to identify any class of monuments as peculiar to it, and in fact there has been a hesitation on the part of archæologists to recognize it as a distinct period. It is, however, worthy of notice that many ancient structures have been disclosed at Cyprus and Crete, and many other localities on either side of the Mediterranean Sea, which are distinct from both prehistoric and historic structures, and constitute in themselves a separate horizon, which perhaps might be ascribed to the Bronze Age.

As to the date at which the historic period began, there is much uncertainty, but the probability is that there were different dates; for recent discoveries are proving that history in Egypt and Babylonia goes many hundreds, and even thousands, of years back of the date in which the record began, either in Greece or Syria or Asia Minor, or even Crete; though in these latter regions the proto-historic period began at an early date, and tarried for many centuries.

As to the monuments and tokens which characterized this proto-historic period, there is a difference of opinion, but archæologists generally are agreed that the appearance of the column and the beginning of writing constitute the line where the historic period began and the proto-historic ended. There were, however, many rude structures which preceded the appearance of the column, and yet do not belong to the pre-historic age. Among these we may mention the various altars, tombs, some of the obelisks, gateways, triangular arches, and the caves which contain the tombs, and some of the mastabas and the labyrinths. These are widely distributed, but wherever they appear they constitute the border line between the prehistoric and historic period.

Bronze also serves to mark the border line between the prehistoric and proto-historic period on the one side, and the



DOLMEN WITH RUDE COLUMNS.

proto-historic and the historic on the other, for it was the appearance of bronze which introduced the proto-historic period, and it was with the use of iron that the historic period began. This is an important point, for the outlines of the double-bladed ax have been found on the structures which have recently been exhumed by Arthur Evans in the island of Crete, showing that the various altars and temples, palaces and halls, found there beneath the soil belonged to the Bronze Age. The same point is impressed upon us by the discoveries of Schliemann in Troy and Mycenæ. Gold was more conspicuous than bronze in his discoveries, but there are many evidences, beside the testimony of Homer, to show that it was during the Bronze Age that the proud cities began to arise. To this age we may ascribe the remarkable gateway at Mycenæ, and other structures, many of which are situated in Greece and



STATUES OF MEMNON IN EGYPT.



COLUMNS IN THE TOMB AT BENI HASSEN.



COLUMNS IN THE MEMNONIUM.

Epirus; but there are others in Asia Minor, in Phrygia, and as far east as Persia.

It may be said that the earliest stages of architecture are found in these rude structures, and by this means we are able to distinguish them from the rude stone monuments which are situated in the same region, but seem to have belonged to a different people and a different age.

Now, it will be profitable to take up these structures which are scattered throughout the length and breadth of this belt of latitude, and study their characteristics and see whether they do not constitute a period, as well as a stage of advancement, which can be distinguished from those which followed afterward.

1. We begin with the land of Egypt. Here the rock-cut structures are quite numerous and are somewhat familiar, because included in them, are many objects concerning which much has been written. Everyone knows about the sphinx, but this belongs to a class of rock-cut structures which have a great variety of forms, and which seemed to belong to the historic age, but after all they date their beginnings back to the proto-historic period and on this account are very interesting objects of study.

There was a great variety to the structures which were erected during this period. Some of them were merely cut out of the rock, and had no semblance to the architectural structures which appeared afterwards; others are in the shape of altars, obelisks, pillars, gateways and tombs. A very interesting class of structures, which appeared in this period, were animal and human images, all of which were cut out of the rock, the best specimen of which may be found in the Sphinx. The Sphinx is supposed to represent the king who built the second pyramid. It was carved out of a rock which broke the view of the pyramids, and is near the platform on which they stand, with its head toward the Nile. It is elevated twelve feet above the present soil. Only the head and shoulders are now visible. Some years ago, the sand was cleared away and it was found that a sloping descent, cut in the rock for 135 feet, ended in a flight of 313 steps and a level platform from which another flight of thirty steps descended to the space between the Sphinx's fore paws. The height from the platform between the protruded paws and the top of the head is 62 feet; the paws extend 50 feet, and the body is 143 feet long; being sculptured from the rock, excepting a portion of the back and the fore paws, which have been cased with hewn stone. The countenance is now so much mutilated that the outline of the features can with difficulty be traced. The head has been covered with a cap, the lower part of which remains, and it had originally a beard, the fragments of which were found below. The space between the protruded paws appears to have served as a temple, in which, at least in later times, sacrifices were performed to the deity. Immediately under the

breast stood a granite tablet, and another of limestone on either side, resting against the paws. The first contains a representation of Thothmes IV. offering incense and making libation to the Sphinx, with a long inscription in hieroglyphics, reciting the titles of the king. On the paws are many inscriptions of the Roman times, expressive of acts of adoration to the Sphinx or Egyptian deities. No opening has been found anywhere in the figure, which is probably solid rock. Though its proportions are colossal, its outline is pure and graceful; the expression mild, gracious, and tranquil; the character is African, but the mouth, the lips of which are thick, has a softness and delicacy of execution truly admirable. That it is an Egyptian head is plainly evident, notwithstanding its mutilation.



COLUMNAR DOLMEN IN EUROPE.

The type, however, is rather fuller and broader than is usual in Egyptian statues.

The statues of Memnon furnish two other specimens of rock-cut structures. These two colossal sitting figures, cut out of the solid rock,

command the approach to a temple, now in ruins, in a quarter of western Thebes. The height of each of these statues is forty-seven feet, and they rest upon pedestals about twelve feet high. One of these has excited much wonder, because of its vocal powers, for it is said to have emitted its voice at the rising sun, but Sir Gardner Wilkinson found in the lap of the statue a stone, which on being struck emitted a metallic sound, though Mr. Lane maintains that he repeatedly heard a sound, like that of a harp string, from the stone above him, which was produced from the influence of the sun's rays.

There are also rock-cut tombs and statues in Egypt. The most famous of these is the rock-hewn temple at Abou-Simbel; this temple belongs to history. On its façade are four colossal figures of Rameses II., represented as seated, sculptured out of solid rock, two on each side of the doorway. These are said to be the largest statues in Egypt. They measure from the sole of the feet to the top of the head, sixty-five feet. Over the entrance to the temple is carved in relief, the figure of the god Ra. The principal hall in the great temple is lined

with statues of the gods, also carved out of the rock. These statues belong to a comparatively late period, but are the survivals of such statues as were common in a very early period. Taken along with the Sphinx and the statues of Memnon, they show the progress of sculpture and of statuary, the seated figure being specially significant.

The best illustration of the proto-historic structure is found in the tomb of Beni Hassan. This presents the earliest and most primitive form of the column, and taken in connection with the other temples of Egypt may be said to mark the very beginnings of architecture. We see in the tomb, the earliest form of the Doric column, for it has no pediment and no capital, a mere square block takes the place of the capital. The column is a plain shaft. It has no taper, but is the same size from the bottom to the top. (See the plate)

The obelisks of Egypt are, perhaps, more strictly proto-historic structures, than are those which have been mentioned. Many of these belong to the historic period, yet they began to be built in the proto-historic period, and had many stages of development before the historic period began. The obelisks were evidently at the first sun-dials, or at least symbols of sun worship.

The resemblance between these obelisks of Egypt and those found at Petra, is especially worthy of notice. The obelisks of Egypt are covered with inscriptions, which magnify the names of the various Egyptian kings; while those which stand on the rocks above the temple at Petra are plain shafts, and have no inscriptions upon them.

2. We turn from Egypt to Crete and Paphos and the islands in the Mediterranean Sea. These localities have recently excited much attention, owing to the discoveries which have been made in them. The most remarkable of these discoveries were made by Mr. Arthur Evans in the Island of Crete, the description of which is as follows:

Mr. Arthur Evans discovered in Knossos a series of levels containing votive and sacrificial deposits connected with the cultus of the Cretan Zeus, whose special symbol was the double ax. In the central area of the palace of Knossos, he brought to light the foundations of two altars, which showed a special relation to the god of the ax.

He says: "The cult objects of Mycenæan times consisted of sacred stone pillars and trees; but certain symbolic objects, like the double ax, stood as the impersonation of the divinity." Mr. Evans also thinks that the heraldically opposed animals on either side of a central post, such as are found in Mycenæ, over the gate, may have come either from Egypt or Babylonia, but they are evidently survivals from the proto-historic period. The idea of the dolmen as a "Pillar of the House" was very prominent in this early religion. The Phrygian image of the column found cut upon the tombs, belongs to a later date, but

represents the pillar cult. He holds that the primitive pillar, with a cap stone at the top, tapered toward the bottom, and refers to a specimen of it found in a dolmen, the outside of which was made up of megaliths, which formed the roof and the sides, but were covered all over with cups or rounded cavities, the entire dolmen forming a shrine devoted to the pillar cult. Such pillars are also seen in the side cells of the megalithic buildings of the Island of Malta, an island which seems to have been filled with the traces of the two periods—the prehistoric and the proto-historic.

These prehistoric works of Malta have been ascribed to the Phœnicians, but they are the outgrowth of a cult which was wide spread and had its chief development in megalithic structures. They show that there was a gradual transition from rude stone monuments to architectural structures during the proto-historic period. The dolmen-like character of many of the Mycenæan shrines, especially those seen in the rings, some of which present the primitive forms of the trilith taken along with the gateway and its pillar, make this place an excellent locality to study the transition from the megalithic monuments to such architectural structures as the column and the arch. There were, however, places on the Island of Crete and at Knossos, which were older than these. The discovery of the shrine, the double ax, and identification of the building with the traditional labyrinth, connected with the discovery of chambers and magazines below the level of the buildings show that the earliest palace had existed in the middle of the third millennium B. C.; while in the second millennium plaster houses, with windows of four and six panes, and a street existed at Knossos. The windows were filled with oiled parchment, and not glass.

The Mycenæan culture goes back to the earlier period, for though the remains of a neolithic settlement has been found in the vicinity, buildings constructed of enormous limestone blocks in the megalithic style were characteristic of the Mycenæan homesteads. This kind of a house anticipated the Greek house of classical times. In all, thirty towns were excavated. In twenty-two of them there were megalithic walls. The houses were one-story. Huts were in the megalithic style, and yet there were stairways and streets.*

Mr. J. M. Myers holds that in pré-Mycenæan times the ideal Hellenic house consisted mainly of two single rooms—one in the rear of the other. On the other hand, Ernest Gardner holds that the primitive Greek house was something like the Greek house with the court on the inside.

3. On either side of the Mediterranean Sea in Epirus and in the region where Ilium or Troy once stood, we find the remains of structures which evidently belonged to the proto-historic age. Schliemann has explored the region and has

* See "Journal of Hellenic Studies," Vol. XXII., 1902, page 305

brought to light specimens of proto-historic art which lay hidden beneath the soil. Among these were copper nails, bronze battle axes, lances, gimlets, knives, and brooches, along with silver ear-rings and gold ornaments. The art itself shows an early stage of development, but the architecture is more suggestive even than the art. The excavations have revealed the architecture of different ages and nations, for no less than twelve cities were built up on the same site. The fifth layer was supposed to be on the site of Troy, and the seventh on the site of Greek and Roman Ilium.

We need not dwell upon these points, for they have been discussed over and over again; but if we compare the walls and gateways, the stairways, and the various structures which are found in ruins, we shall conclude that here the proto-historic age was represented as well as the historic—the lower city being prehistoric—and that a complete record is contained in the ruins. But it may be said of the Beehive tombs and chamber tombs and treasure houses of Mycenæ, that they properly re-



GATEWAYS AT SAMOS AND PHIGALIA IN GREECE.

present the proto-historic period. The very walls, arches and gateways present a style of masonry which is peculiar to that period. The Lion Gateway has been often referred to as belonging to the earliest period of history. This gateway is nearly quadrangular, with a height of 10 feet 4 inches, and a width of 9 feet 10 inches. The gate posts, the threshold, and the lintel are great blocks of breccia, showing clearly the marks of the saw by which they were cut out of the quarry. In the sockets we see the pivots by which the double gates turned. Above the gate, the wall is not built up solid, but the successive courses on either side overlap, until they meet in a sort of pointed arch, and thus leave a great triangular opening. This was the kind of arch which prevailed during the proto-historic period. There are many localities where it can be seen—at Samos, at Phigelia, at Delos, Mycenæ, at Tiryns, and at Ephesus. The main difference between the gate at Mycenæ and those mentioned, is, that inside this triangular arch is the

heavy pier and lintel, with statues of the lions standing upon the lintel and a pillar with a rude capital between them. This is supposed to be one of the earliest columns in existence, and the whole structure represents an early period in architecture. The recent discoveries in Knossos and in Crete show that there was a pre-Mycenæan art and architecture in the islands, but they do not refute the position which we take, but confirm it.

It is evident that in Greece the arch had its origin, for here we find gateways which show the different stages of progress



EARLIEST ARCH.

which were made before the secret of the arch was learned. In one of these gateways, we see the stones near the top projecting beyond the line of the abutment, but held to their place by the weight of the stones above. In another, we find the edges of the stones beveled but coming to a point at the top, giving to the structure the appearance of an arch. There is, however, no true arch to be found in any of these gateways, nor do we find the column with the capital anywhere in Greece at this time.

The architecture of the time was exactly in the same condition as the architecture of Peru and Central America at the time of the Discovery by Columbus.

4. There is another widespread district on the east coast of the Mediterranean, which contains a large number of proto-historic structures; some of them in Palestine; others in Syria and Phœnicia, and others in Asia Minor. The most interesting of them are east of the Jordan. Here we find rude stone monuments, so mingled with proto-historic structures that it is difficult to distinguish between them. A specimen of these has been recently exhumed from the ancient city of Gezer.

It may be said, that at this place, a succession of structures have been found, which shows that there was a gradual transition from the building of rude stone monuments to the erecting of various architectural works, though progress may have been owing to a change of the population, rather than the progress of the same people. This is made plausible from the fact, that on the east of the Jordan, and to the north of Palestine, there are many rude stone monuments which seem to have belonged to a different race, and possibly were erected by the old Hittites, though others have ascribed them to the Indo-European race.

Prof. Samuel Ives Curtis has explored the monuments of Syria and Palestine. Mr. Stewart MacAlister has explored the ruins of Gezer. He says, "Beginning at the bottom, or two lowest strata, it was found that the site was occupied by an

aboriginal, non-Semitic race, of slight build and small stature. They lived in caves and rude huts. The cave-dwellers were succeeded by a Semitic people, who lived in houses of mud and stone, surrounded with walls. In the fourth stratum, we find a 'High place,' also megalithic structures, which consist of a group of monoliths, from 5 feet 5 inches to 10 feet high; a line and circular structure 13 feet 18 inches in diameter, consisting of a rude wall, now about 16 feet high, with no opening. The fifth and sixth strata are the most interesting, for they represent the occupation of Gezer by the Israelites. Bronze is a common metal, though flint is still in use and remains of iron are found. The sixth strata is assigned to the period of the Jewish Monarchy, and the seventh to the Syro-Egyptian period in the times of Alexander."*

5. East of the Jordan were many rock-cut structures which evidently belonged to the proto historic period. These have been described by Dr. Merrill, formerly consul at Jerusalem. He quotes the language of Dr. J. G. Wetzstein: "Here is an underground city, a subterranean labyrinth. We found ourselves in a broad street, which had dwellings on both sides of it. Farther along, there were several cross streets. Soon after we came to a market-place, where for a long distance on both sides there were numerous shops in the walls. After awhile we turned into a side street, whose roof supported by four pillars, attracted attention. The roof, or ceiling, was formed of a single slab of jasper. The rooms, for the most part, had no supports, the doors were often made of a single square stone. Here, I also noticed fallen columns. The present city, which, judging from its walls, must have been one of great extent, lies for the most part over the old subterranean city."

In the same region, Dr. Merrill found some of the finest works of architecture, among which may be mentioned the Mashita Palace, built about A. D. 614; also a Roman road or pavement which shows the power and extent of the Roman Empire. These comparatively modern structures were placed amid ruins of Gadara and the tombs which belonged to a preceding age. These are dug in the limestone rock. All of them have doors of basalt. On the doors are carved panels and knockers, and bands and bolt heads, showing they belonged to the historic period. Five great fortresses were in sight.

In fact we may say that this land, east of the Jordan, has a complete series of structures, which begin with the rude stone monuments and end with the great palaces and temples which were built during the palmy days of the Roman Empire, the theatres and palaces and temples here present columns which have capitals of the Corinthian order. In the same region was situated the palace of Zenobia, the Queen, and the ruins of Tadmor in the wilderness, showing that the same fate had

* See "Biblical World," Feb. 1904, page 146; Article by Irwin M. Price.

fallen upon them, that had fallen upon the people who erected them.

Rev. J. L. Porter mentions a huge tower, rising high above the battlements and overlooking the plain of Bashan or Bozrah. He says: "From it I saw that Bozrah was in ancient times connected by a series



ROCK CUT HOUSE IN BASHAN.

of great highways with leading cities. These roads are worthy of notice, for the Roman roads showed much more advancement in the art of road making than did the old Greek roads, which in fact resembled the old cyclopean archi-

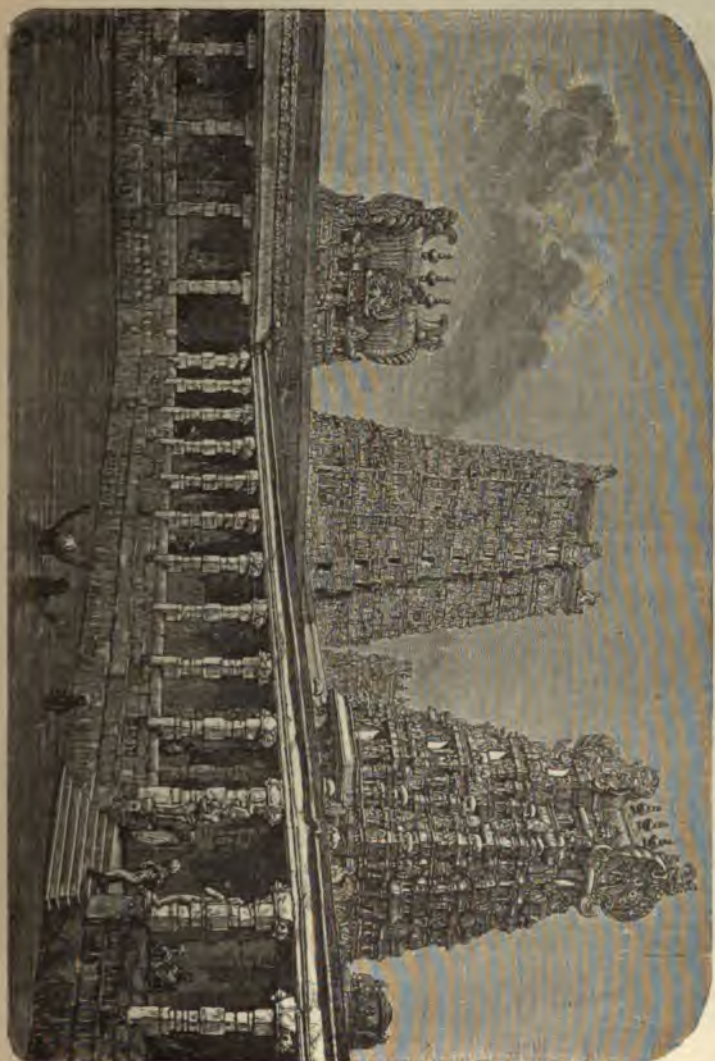
ture, and have been called the cyclopean roads, specimens of which have been described by Tsountas in his volume on the Mycenæan Age.*

The rock cut structures in the city of Bashan are in great contrast to the palaces and temples which are standing in ruins, but which were built during the palmy days of the Roman Empire, for these palaces and temples present columns which have capitals of the Corinthian order and arches, showing that architecture had reached its highest stage of development. The ruins of Tadmor in the wilderness, in which are found the palace of Zenobia, show that a worse fate had fallen upon them than had fallen upon the great cities of Bashan, for these cities have been preserved exactly as they were when they were occupied. The very fact that they were cut out of the rock, have secured their preservation; while the cities which were built



ROCK-CUT DOORWAY IN BASHAN.

*See "Mycenæan Age," page 56 fig. 8.



ROCK-CUT TEMPLE IN INDIA.



THE HINDOO TRIAD BRAHMA VISHNU AND SIVA.

up by the art of man, above the surface, and contain arches and columns and various ornaments, are in complete ruin. The theatres are the best preserved, for the seats were cut out of the rock and insured their security.

6. We turn from this region to the region, farther north in Kadesh and Hamath, Carchemish and the western bend of the Euphrates. Here was the original seat and capital of the Hittites, a people who belonged to the proto-historic period. The old southern Hittite capital was at Kadesh, though scores of Hittite remains have been found in the neighborhood of Aintab and Marash. Here, large numbers of Hittite monuments, bas reliefs and inscriptions have been found, the remains of prehistoric walls, with them some remarkable Assyrian in-



TOMB OF MIDAS.

scriptions. These show the Hittite style and form of structures, ornamentation and bas reliefs, as well as the pavements and stone slabs. The Hittites were of Mongolian stock. They are a mysterious people. They first appeared about 1600 B.C., having invaded Syria and Palestine from the far north. Their home was on the Orontes River. The Assyrian art gives us many representations of sieges and battles with the Hittites. The Hittite chariots have been depicted upon the monuments, and their faces shown.

7. It is in Phrygia and Lydia that we find the most important evidence of this little known period. Much information can be gained from the study of the rock-cut structures in reference to the period in which the people lived in tents, as well as the period which followed it, in which framed houses were erected.

Here the rock-cut tombs are imitative of the house, and all the features of early ancient house architecture have been preserved. In this way, the rock being cut so as to imitate the beams, rafters, and doorways, with their jambs and panels. In other places, even pieces of furniture are imitated, and within the tombs are couches for the bodies, cut in solid rock. Even the roundels bring to mind the door knobs. The most interesting of these is the one at Midas. This has been described by Perrot and Chipiez. The peculiar pattern, seen upon its face, is said by them to have been an imitation of the drapery and the tent cloth which was made by the needle, and other portions represent the wooden framework.

The tomb of Midas is, however, no more interesting than many others found in Phrygia, Lydia, and the regions adjoining. Here there are tombs cut out of the rock, in front of which are columns built after a pattern with fine gable-ends, arches over the doorways built with sloping jambs, and a sun-symbol over the doorway, as at Ayazeen. Other tombs exhibit columns with capital, resembling the Corinthian, others with a porch in front of the chamber, and heavy Doric columns in front of the porch. The doors of the tomb are back of the porch. Most interesting are those hewn out of the solid rock, in front of which is a peculiar sculptured ornament which represents the tree or the column with a lion on either side, resembling the gate at Mycenæ. The thought has been advanced that the lions which in Babylonia guarded the portals of the palace, and were a support to the throne, are here watching over the last abode of the prince or grandee, exactly as they do over the tomb or treasure-house at Mycenæ.

There were in India many rock-cut structures, some of them of magnificent proportions; a few columns on which were carved many ornaments, but with a heavy capital on the column. A specimen of the rock-cut temples of India may be seen in the plate. This is comparatively modern, but taken in connection with the dolmens seen in the first cut, we can realize the changes which occurred in the architecture of that land, and yet the same characteristics were retained.

In Central America we find many columns arranged in clusters along the façades of these palaces. A few of them had capitals in the shape of square blocks, but the most of them were cut in the round, with bands in relief in the center, making a conventional ornament which was characteristic of the region. The conclusion which we draw, after comparing these structures of the New World with those of the Old World, is that architecture was here in about the same stage that it was in Greece, in Crete, in Cyprus, in Epirus, and at Athens during the pre-Mycenæan Age, which belonged to the proto-historic period.

AMERICAN ORIGINS.

BY C. STANILAND WAKE.

In his great work on the American tribes of the Pacific Coast, Mr. H. H. Bancroft mentions that the merchants of Mexico, 'who hawked their goods from place to place and wandered often far into strange countries to buy or sell,' and who had for their chief deity, and sometimes 'as the only one, the god Giacatecutli, or Jacateuctli, or Iyacatecuhtli, that is "the god who guides," otherwise called "Gacacoluhiqui, or Jacacoluhiqui." In a note, Bancroft states that this last name means, according to Torquemada, the "hook-nosed," and he adds that "it is curious enough that this type of face, so generally connected with the Hebrew race, and through them with particular astuteness in trade, should be the characteristic of the Mexican god of trade." Bancroft says further, that practically every merchant revered his own staff—generally made of a solid, knotless piece of black cane, called *utatl*—as the representative or symbol of this god Giacatecutli; keeping it, when not in use, in the oratory or sacred place in his house, and invariably putting food before it, preliminary to eating his own meal. When travelling the traders were accustomed nightly to stack up their canes in a convenient position, bind them about, build a fire before them, and then offering blood and copal, pray for preservation and shelter from the many perils to which their wandering life made them especially subject." Bancroft quotes Sahagun as saying, with reference to the arrival among men of the gods, believed to take place in the twelfth Mexican month, "that a day after all the rest of the gods, come the god of fire and the god of the merchants, together; they being old and unable to walk as fast as their younger divine brethren." The American historian adds in a further note, that "the Nahuiecatli, or Natuiecatl, mentioned by the interpreters of the codices as a god honored by the merchants, is either some air god, like Quetzalcoatl, or, as Sahagun gives it, 'merely the name of a sign.'"

The reference to the Mexican merchant's staff in the above quotation is interesting, as the staff has always been an important adjunct of life in the past. There are various references to it in the Old Testament scriptures, and one especially which would seem to show that it had some peculiar significance. Thus in one of the Psalms it is said, referring to Jehovah, "Thy rod and thy staff shall comfort me." The Patriarch Jacob is represented as leaning on his staff when he foretold the fortune of his sons, and it was by means of the staff of Aaron that many of the miracles, which led to the release by

the Egyptian Pharaoh to his Hebrew slaves are said to have been performed. The staff may thus be said to have become the magic wand, but its original special significance was probably that of authority. The ancient Egyptian wooden scepter of the pharaoh, "the magic wand," is figured staff in hand, sometimes as a symbol of office. We learn from Wapport that ancient Egyptian overseers of workmen carried a stick as their scepter. They used it freely, in accordance with the proverb, "Man has a back and only obeys when it is beaten." Some of the Egyptian deities are represented as carrying the rod which is seen moreover in the hand of the Roman Mercury as the magician.

It is said by Bancroft as we have seen, that at night the Mexican traders stacked up their staves and bound them together before praying to them. This binding together of the staves would make a bundle like that of the Roman fasces. This may be mere analogy, but curious enough some kind of relationship between the Romans and the Jews, whom Bancroft refers to in connection with the Mexican traders, is far from improbable. The Roman nose was of the Jewish type, and the Roman character was much like that of the Jewish people. Both alike were governed in their conduct by an intense patriotism. During the Jewish struggle for independence under the Maccabees, Judas Maccabeus, having heard of the power of the Romans and of their readiness to "make a league of unity with all that came to them," sent an embassy to make a confederacy and a peace with them. The envoys were favorably received, and the Senate gave them a letter, engraved on a tablet of brass, as a memorial of peace and confederacy. Jonathan, the successor of Judas Maccabeus, wrote seeking the alliance of the Lacedæmonians, whose King Areus in his reply, claimed kinship for his people with the Jews.

There is no real reason why the people who settled near the Tiber and built the town which formed the nucleus of the city of Rome, should not have belonged to a common stock with the Lacedæmonians and the Jews. The former of these were in character not unlike the Romans, and the description given of the latter by Mommsen might be applied with little alteration to the Jewish people. The German historian, in comparing and differencing the nature of the Greeks and the Romans, refers to "that Roman character, which solemnly bound the son to reverence the father, the citizen to reverence the ruler, and all to reverence the gods; which required nothing and honored nothing but the useful act, and compelled every citizen to fill up every moment of his brief life with unceasing work, which made it a duty, even in the boy, modestly to cover the body; which deemed every one a bad citizen who wished to be different from his fellows; which regarded the state as all in all, and a desire for the state's existence as the only aspiration not liable to censure." Differing from the Greek, "the Italian

surrendered his own personal will for the sake of freedom, and learned to obey his father that he might know how to obey the state. Amidst this subjection individual development might be marred, and the germs of fairest promise in man might be arrested in the bud; the Italian gained in their stead a feeling of fatherland and of patriotism, such as the Greek never knew, and alone among all the civilized nations of antiquity succeeded in working out nationality with a constitution based on self-government—a national unity which at last placed in his hands the mastery, not only over the divided Hellenic stock, but over the whole known world." The intensity of national feeling was just as strong among the Jews as it was with the Romans, but the conditions under which it developed being different, the destiny of these peoples was worked out along different lines.

As to the Greeks and Romans, although their national characters possessed but little in common, this cannot be said of their mythological conceptions. Indeed, many of their deities were the same, though worshipped under different names. Thus the Roman god of trade, Mercury, has been identified with the Greek deity, Hermes, the guardian of boundaries and the protector of the produce of the fields. The latter also became, as was Mercury, the god of wealth and traffic, and the patron god of traders. Mercury is usually represented with wings on his feet, and as carrying the caduceus. He was evidently an air god, such as Bancroft supposes the Mexican god honored by the merchants to have been. This was probably, however, a separate aspect of the god of the traders, corresponding, perhaps, to the difference between Mercury and the Hermean pillar god, who is sometimes identified with the Roman boundary god Terminus. The Mexican legend said that the god of the merchants and the god of fire were the last to arrive during the twelfth month, because they were old and unable to walk as fast as their younger divine brethren. This may mean that these two gods were late comers into the pantheon, being foreign gods, or it may have referred to a peculiarity which is mentioned in connection with the gods of Western Asia in particular. These gods were often fastened with chains to prevent their leaving their temples, and were thus as incapable of travelling fast, as was the Hermean god, who was planted in the fields. Curiously enough, sacred stone pillars of a similar character are to be found in the American continent, as will be mentioned later on.

It is remarked by Professor Frederick Ratzel, in relation to the civilization of Mexico and Peru, that "the analogies are to be sought rather in the conquering and predatory states of ancient Western Asia, than in the more peaceful East Asiatic communities." With a slight modification, this conclusion may be accepted as stating the truth. Many things that have been referred to from time to time as evidencing Chinese or Japanese

can look for an answer only in the West; and this pushes the origin of this so-called peculiar civilization nearer to the roots of that of Western Asia."

In seeking for the Asiatic area from which the pre-Columbian culture of America may have been derived, we must also look to the western rather than to the eastern portion of that area. Certain facts which have been brought to light from time to time confirm this conclusion. Such is the similarity between the upright stones, usually highly sculptured, found in Central America, to the pillar stones of ancient Babylonia, which are analogous to the Grecian Hermes pillars. In referring to this subject, Mr. Bancroft remarks: "The sculptured pillars to be seen at Copan and other ruins of Central America, which are acknowledged to be connected with sun worship, are very similar to the sculptured phallus-pillars of the East." Squier was also of this opinion, and he cites Skinner as stating that in Peru rough stones, set up in the fields and plantations, were worshipped as protectors of the crops. In Mexico, the presiding god of Spring was, according to Goma, as quoted by Bancroft, "often represented without a human body, and in place thereof, a pilaster or square column, upon a pedestal or base carved with various sculptures."

The Babylonian or Chaldean influence, thus supposed to account for the pillar stones of Central America, may also be called in to explain why the serpent superstition had so strong a hold on the ancient American people. Babylon was at one time the great centre of serpent worship in Asia, and it is not improbable that the Dragon and the Naga cults of China and India were directly, or indirectly, derived from that source. The ascription of a Chaldean origin for American serpent worship would carry with it serious consequences, for the serpent was the great symbol of wisdom, and we can hardly doubt that the introduction of its cult would be attended with that of the general civilization of the people from whom it was obtained. This people need not have been, however, actually Babylonian. Although so-called Chaldeans at a comparatively late date overran the Western world, carrying with them the superstitious ideas and occult practices for which old Babylon was famed, they were not the first to spread abroad the Chaldean civilization. This was done at an earlier period by the Phœnicians, a people about whom little is known beyond the fact, that they were not only great builders, but also the greatest seafarers of antiquity. The Phœnician cities of Philistia were long the chief trading centres of the ancient world, and their African colonies contended with Rome, not only for the empire of the seas but, it might almost be said, for the empire of the world. When the Egyptian Pharaoh wished to know the real extent of the land now known as the African continent, he employed the Phœnicians to obtain the required information. The story of their great discovery, as given by Herodotus, is as follows: "As

for Libya [Africa], we know it to be washed on all sides by the sea, except where it is attached to Asia. This discovery was made by Nekos, the Egyptian king, who, on desisting from the canal which he had begun between the Nile and the Arabian Gulf, sent to sea a number of ships manned by Phœnicians, with orders to make for the Pillars of Hercules, and return to Egypt through them and by the Northern Sea [Mediterranean]. The Phœnicians took their departure from Egypt by way of the Erythrean Sea, and so sailed into the Southern Ocean. When autumn came they went ashore wherever they might happen to be, and having seen a tract of land, with corn, waited until the grain was fit to cut. Having reaped it, they again set sail; and thus it came to pass that two whole years passed by, and it was not until the third year that they doubled the Pillars of Hercules and made good their voyage home. On their return they declared—I for my part do not believe it—that on sailing they had the sun upon their right hand. In this way was the extent of Libya discovered."

The great extent of the African continent having been ascertained, it is extremely improbable that the discovery would not be utilized. That the Phœnicians, or some race akin to them, did in fact make prolonged visits to South Africa is proved by the ruined buildings that still exist in Mashonaland. Probably the people who erected these buildings were in search of gold, and if the Phœnicians were not the actual workers, they were doubtless the navigators and traders engaged in the pursuit. The Phœnicians are known to have voyaged to the British Islands to obtain the tin so essential to the making of bronze. Judging from some of the existing place names on the Cornish coast, it is probable that either they, or Hebrews who accompanied them, actually worked the tin mines in that locality. Seamen who were capable of circumnavigating Africa and reaching the British Islands, need not have had much difficulty in crossing the Atlantic Ocean, particularly, if their is any truth in the old Egyptian story of Atlantis, although this was no more necessary for such a voyage, than it was to that of Columbus. The use of bronze by the civilized peoples of the American continent in pre-Columbian times has been ascertained, and may they not have been indebted to the Phœnicians, either for the bronze itself, or for the tin employed in its making? Ratzel says: "We do not know whence these people got their tin, but it is certain that they used vessels and implements of soft bronze, containing tin in the proportion of 4 to 10 per cent. Chisel-like blades with semi-circular edge, axes, crescent shaped plaques for adorning the head or the nose, and hair pins made of a similar alloy, are found both in Mexico and Peru." The German writer adds, that "in South America, Chimu is the region richest in bronze, as might, indeed, be inferred from the old reports of Cieça de Leon. In and about Chimu, bronze weapons and

utensils are found in such quantities that they were sold by the ton. Celts, just like those of Europe, and ornamental bronze shovels, were depicted by Squier. As in Peru, the bronze knives had a crescent-shaped edge, and the handle in the middle; the same pattern occurs among the Asaitic races, and is an obsolete form in Indonesia."

The copper money used in Mexico and Central America, as figured by Bancroft, had the form of the bronze knives of Peru here referred to. Along the northwest coast of the Northern continent "coppers" showing an analogous but modified form have a peculiar character. Dr. Franz Boas, in his valuable account of the Kwakiutl of British Columbia, refers to the use all along the North Pacific Coast, from Yakutat to Comon, of curiously shaped copper plates, the lower part of which has a vertical and a horizontal ridge forming the *tau* pattern, and the upper part is covered on one side with black lead, in which the face of the crest animal of the owner is engraved. Dr. Boas remarks further: "These coppers have the same function which bank notes of high denomination have with us. The actual value of the copper is small, but it is made to represent a large number of blankets and can always be sold for blankets. The value is not arbitrarily set, but depends upon the amount of property given away in the festival at which the copper is sold. On the whole, the oftener a copper is sold the higher its value, as every new buyer tries to invest more blankets in it. Therefore the purchase of a copper always brings distinction, because it proves that the buyer is able to bring together a vast amount of property." The breaking of a valuable copper is a means taken to bring loss on a rival chief. The breaker of the copper gives the pieces to his rival, who, if he wants to maintain his prestige, "must break a copper of equal or higher value, and then return both his own broken copper and the fragments which he has received to his rival. The latter may pay for the copper which he has thus received. The copper is broken in pieces until there remains only the *tau*-shaped ridge piece, which is valued at two-thirds of the total value of the copper and is the last to be given away. "Coppers, like other property, may be destroyed for the sole purpose of gaining distinction. Sometimes they were buried under house posts or totem posts, instead of slaves. The property thus disposed of is called the price paid for the house or post. This custom has also reference, probably, to the belief that good luck will attend the structure, and, according to Mr. James Deans, among the Haida of Queen Charlotte Islands the idea of good luck is associated with the copper *tau*. In fact, Mr. Deans affirms that not only do the Haida attach to it that idea, but they apply to it the name *tau*, which we know was applied by the Phœnicians to the alphabetic character of that form, and was used by them as a sign of good fortune.*

*Ratzel states that *tau*-shaped "niches in the masonry occur as sacred symbols at Teotihuacan and in Peru and have often been taken for crosses."

It seems impossible to account for these facts without reference to the influence of the Old World nations, whether the Phœnicians or some other Asiatic people were the disseminators of them.* If so, then the Eastern origin claimed for Votan and other hero gods of Central America gains in probability. Bancroft, after stating that a comparison of the different traditions held by the natives admits of two such personages, Votan and Quetzalcoatl, adds: "It is certain, however, that from them, whether heros, priests, rulers or warriors, Central America received the culture which their successors brought to such perfection. The knowledge of one supreme king appears to have been among the first dogmas instilled into the minds of their people; but in the tradition presented to us, the hero's name is often confounded with that of the divinities. Like Quetzalcoatl, Votan was the first historian of his people, and wrote a book on the origin of the race, in which he declares himself a snake, a descendant of Imos, of the line of Chan, of the race of Chivim. One of his titles was 'Lord of the Hollow Tree.'" Bancroft further remarks: "From the confused tradition of the Tzendals, as rendered by Nuñez de la Vega and Ordoñez y Aquiar, it seems that Votan proceeded by divine command to America, and then portioned out the land. He accordingly departed from Valum Chivim, passed by the 'dwelling of the thirteen snakes,' and arrived in Valum Vatan, where he took with him several of his family, to form the nucleus of the settlement. With them he passed through the island-strewn Laguna de Terminos, ascended the Usumacenta, and here, on one of its tributaries founded Nachan or Palenqué, the future metropolis of a mighty kingdom, and one of the reputed cradles of American civilization. The Tzendal inhabitants bestowed upon the strange-looking new-comers the name Tzequiles, 'men with petticoats,' on account of their long robes, but soon exchanged ideas and customs with them, submitted to their rule, and gave them their daughters in marriage. This event is laid a thousand years before Christ."

The statement that Votan claimed to be a snake is deserving of consideration. The rise of Buddhism is supposed to have taken place among the serpent worshippers of Northern India, and according to a Hindu legend, Gautama had a serpent lineage. The Nagas are the possessors of the secret wisdom, and although they are spoken of as serpents, it is probable that this was merely the totem name of a race in Central Asia, who claimed to have occultic power. This race would seem to have promulgated their cult throughout nearly the whole of the Old World, and it is not improbable that the snakes Votan and Quetzalcoatl of American tradition belonged to it. Dr. Brinton objects to the identification, proposed by M. de Charencey, of the name Votan with Woden, or Buddha,

* May not the presence of Roman coins which been found from time to time in various parts of the Northwestern states be thus explained?

and it is not necessary to insist on it, although the meanings of the three names are much allied.

There is another feature of the Votan and Quetzalcoatl tradition, which should not be overlooked. It is the association of these culture heroes with caves. The disciples of Quetzalcoatl preached his doctrines in Oajaca and here, amidst the mountains, "in a cave, the interior of which was filled with idols, set up in niches upon stones dyed with human blood and smoke of incense, was a large transparent chalchuite, entwined by a snake, whose head pointed toward a little bird perched on the apex." This relic was worshipped under the name of "the heart of the people," and had, says Bancroft, all the chief attributes of Quetzalcoatl, the stone, the snake, and the bird. In other places, also, cave temples were dedicated to the worship of this god. The name Votan is said to mean "heart," and this hero-god had a temple, called "house of darkness" from its subterranean chambers, where the records of the nation were deposited under the charge of a fixed number of old men, termed Tlapians, or guardians, and an order of priestesses, whose superior was likewise the head of the male members. Here were also kept a number of tapirs,* a sacred animal among the people. According to one account, Votan made several visits to his former home. On one of these, he was allowed to penetrate by a subterranean passage to the root of heaven. This reminds us of the "foot of heaven," of Dènné myth, where, says Petitot, was an immense cave from which flowed a river, and which appears to have been the home of departed souls. The cave deity of Asia, *par excellence*, was Mithra, the Persian god of light, whose worship was propagated among the Babylonians, and afterwards among the Romans, whose soldiers carried it throughout Europe as far as the empire extended. Various reasons might be assigned for believing that many of the ideas embodied in the Mithraic cult, or in the earlier form of the Zoroastrian religion, have been retained by the native tribes of North America. The description of Votan given by Brasseur de Bourbourg would answer well for the Persian Mithra, confounded with his great high priest Zoroaster. He says, as cited by Bancroft, "At time he seems to be a mythic creation, the mediator between man and God, the representation of wisdom and power; at times a prince and a legislator, who introduced a higher culture among his people." The first exploit Mithra, as a hero, performed was to conquer the sun, and curiously enough the founder of the Miztec royal family, who were followers of Quetzalcoatl, was credited with a similar exploit. The Persian god of light was ever in conflict with the god of darkness, and a similar opposition subsisted between the hero gods of America and other deities by whom they were, temporarily at least, overcome.

*If Votan were from Asia, he might see in the tap'r the local representative of the elephant.

The three chief attributes ascribed to Quetzalcoatl, above referred to, may also be considered as belonging to the Persian deity. In the earliest form, this deity is represented as being born from a rock, which later becomes a cave, in each case, probably meaning the earth. In the stone tablets so widely spread throughout the Roman world, in which Mithra is represented as slaying the primeval bull, the raven, who is the messenger of the sun, is always figured as viewing the scene. Sometimes the god is figured as entwined by a serpent, which probably is symbolical of eternity. Here we have, no doubt, the influence of Chaldean ideas, which are supposed also to have led to the identification of Mithra with the Sun god, and to the introduction on his monuments of the signs of the zodiac. There is no reason why Asiatic ideas may not have been transmitted to the American continent by more than one agency, and it is quite possible that, while the so-called Red Indians of North America received such ideas from the Northwest, the Central Americans and allied people received similar ideas, somewhat modified, from the East; in the latter case, the Phœnicians having been the agents through whom they were obtained. In confirmation of the latter action, reference may be made to the Votive Tablet, dedicated to the Lady Tanit-Gene-Baal and the Lord Baal-Hammon, found at Carthage, the great Afro-Phœnician rival of Rome. Dr. Paul Carus, the editor of *The Open Court*, which gives a reproduction of the tablet in its issue for January, 1904, in describing the tablet remarks, that underneath the dedicatory inscription "is a peculiar religious symbol which, according to some archæologists, takes the place of the Egyptian 'key of life.' On either side, hovers a dove, the bird sacred to Astarte. Above the inscription we can see Astarte, the lady of the countenance of Baal, holding in her hand the symbol of her divinity, a disc within a crescent. . . . The goddess appears in the shape which later on Christian artists gave to angels; the arch above her represents the heavens; on either side stands a pillar, which here assumes the shape of a shepherd's crook. On the top of the slab appears a hand, symbolizing Providence, the dispensation of Baal-Harmon (the Phœnician name for the Egyptian Ammon), the supreme god and ruler of the universe, corresponding to the Christian God the Father, and it is noteworthy that the symbol of the outstretched hand, also used as an emblem on the top of Roman standards, remained a symbol of Providence among Christian artists almost down to the present day." There are several figures on the tablet which are not unknown to native cult, but I will refer particularly only to the hand which surmounts the tablet. In Yucatan the red hand is often found impressed on buildings, and is known as the Working Hand. The same thing occurs in connection with the ruined buildings at Tusayan.

Finally, allusion may be made to the symbol of the winged

globe, or circle, used by the ancient Egyptians. This appears to represent the sun, and an ornament of a similar character was found by Stephens and Catherwood at Ocociago, about forty miles from Palenqué, a restitution of it being figured by Waldeck. In the Assyrian form of the winged globe, the figure of the sun god is seen within the circle. Among the sculptured casts made by M. Desiré Charnay in Central America are two slabs on which a man is represented as worshipping the sun god, who is figured as a man up above in the sky. In one case the god is shown encircled by a disc.

In conclusion, I may quote from Squier a remark as to American origins made by Alexander von Humboldt, although it may seem to clash somewhat with the views above expressed. The German philosopher remarks: "How rash to point out the group of nations on the Old World continent to which the Toltecs, Aztecs, Minyscos and Peruvians present the nearest analogies; since these analogies are apparent in the traditions, the monuments and the customs which, perhaps, preceded the present division of Asiatics into Chinese, Hindus and Mongols." Humboldt here refers, probably, to the notion that mankind originated in Central Asia. Now, whether this notion is true or not, the conclusion I have desired to impress, is that early American culture was derived from the Asiatic stock to which the early Babylonians, who probably originated in Central Asia, belonged, or from the Phœnicians, who appear to have been intermediaries between Asia and the Western world. It is far from improbable that both these agencies have been at work, and that one was due to great movements* of peoples, who spread in successive waves from Central Asia throughout the whole Northern hemisphere, and the other was operated by water, the Phœnicians being not only great builders on land, but also the most noted sailors and explorers by sea of the ancient world.

* Such a movement, which occurred in the twelfth century under the great conqueror Koblai-Khan, is referred to by Father Petitot in his "*Monographie des Dènè-Dindjié*." This author states that originally he regarded the American Indians as autochthenous, but that he changed his opinion as the result of his experiences and researches during ten years spent among the Dènè-Dindjié, whom he became convinced were derived from Asia.

ANTHROPOLOGY AT THE ST. LOUIS EXPOSITION.

AFRICAN PYGMIES.

Plans have been completed for assembling, either in the Department of Anthropology or elsewhere, representatives of all the world's races, ranging from smallest pygmies to the most gigantic peoples, from the darkest blacks to the dominant whites, and from the lowest known culture (the dawn of the Stone Age) to its highest culmination in that Age of Metal, which, as the Exposition shows, is now maturing in the Age of Power.

Through the energetic co-operation of Rev. S. P. Verner, President of Stillman Institute (Tuskaloosa, Alabama), a group of Batwa Pygmies from Central Africa will be installed to form part of the out-door exhibit of this section. Since the time of Herodotus the existence of African Pygmies has been known, though it was only a few years ago that they were rediscovered by Du Chaillu, Schweinfurth and Stanley. The studies of Mr. Verner and others have shown that the little people are really the aborigines of the Dark Continent, of which the greater portion have been displaced by full-size tribes. Practically nothing is known of the language, laws, or beliefs of the Pygmies, though travelers tell that they are skillful hunters, slaying the lion and the elephant, and even the rhinoceros and hippopotamus, with poisoned darts. But two or three Pygmies have ever left their native ranges; none have hitherto crossed the Atlantic to the western hemisphere. Mr. Verner's expedition has the favor of His Majesty, King Leopold of Belgium.

PATAGONIAN GIANTS.

The Head Man of the Tehuelche tribe is to visit the Exposition with his wife, daughter, son-in-law and grandchildren, and one or two other families of the tribe. Since the time of Magellan these Indians have been known as Patagonian Giants; so far as measurements have been made, their mean stature exceeds that of any other known people save, probably, the Seri Indians of Northwestern Mexico. The Tehuelche family occupies a skin house or toldo, they subsist partly on sea food, partly on spoil of the inland chase; the men are skillful in navigating large canoes containing fires for warmth and cooking; in the chase they depend chiefly on the bolas—a triple thong loaded with stone weight at the ends—which is thrown a great distance to entangle the quarry. It is planned to exhibit the family groups with their appurtenances, including one or two toldos and fireplace-canoes, on the shores of Arrowhead Lake

adjacent to the African Pygmies and the ethnologic display from the Philippines.

ABORIGINAL GROUPS.

Arrangements are well advanced for placing family groups representing various other primitive peoples on the grounds of the department. Among these are the Ainu tribe of the Island of Hokkaido (Northern Japan), representing the aborigines of the Japanese Empire, and illustrating in their occupations and handiwork some of the most significant stages in industrial development known to students—germs of some of those material arts which in their perfection have raised Japan to leading rank among the world's nations; the Cocopa Indians, from the Lower Colorado, a tribe still cultivating aboriginal crops by aboriginal methods, and whose men are of stature equal to the Patagonians, though the women are shorter; the Seri Indians, of Tiburton Island, northwestern Mexico, probably the most gigantic tribe extant, whose culture is so low that they may be classed as just entering the Stone Age; the "Red Negroes" of Central Africa, represented by Chief Ndombe and his court, occupying the upper Kasai Valley and forming an ethnic strain and social class not yet studied by scientists; and about a score of the aboriginal tribes still surviving in the United States. These will include one or two Pueblo groups, occupying structures modeled after portions of their native pueblos; Plains tribes, with their tipis, shields and other insignia so arranged as to express social organization; basket makers from northern California and central Arizona; blanket weavers, potters, skin dressers, bead workers, copper shapers, arrow makers, and other native artisans pursuing their craft according to the ways of their ancestors in pre-Columbian times. The several groups will typify aboriginal life; and both special students and general visitors will find in them an index to the inner life of the Red Race, whose rise and passing, form the opening epic of American history. Several groups will cluster about notable figures; Chief Joseph, of the Nez Percé tribe, one of the ablest leaders ever sprung from American soil; the Apache chief, Geronimo, with his band, who withstood the United States army for years; the stately Kiowa chief, Quanah Parker—these are among the native personages who have signified their intention of attending the Exposition and participating in the work of the department.

Some of the aboriginal groups (especially those from the Pueblo region) will be sufficiently large to permit adequate display, not only of the collective industries and games, but of the ceremonial life of the tribes. After much consideration in the Indian Bureau, it has been decided, on the recommendation of Superintendent McCowan, that the best possible Indian exhibit will be one in conjunction with a model Indian school; and furthermore, that the only satisfactory exhibit of Indian

life must be one in which the natives conform to their customary habits and observances in every particular. Accordingly, set games will be played and formal ceremonies performed, not in a spectacular way, but at the times and seasons fixed by immemorial custom; so the studious visitor will enjoy, on the Exposition grounds, opportunities for accurate study hardly less useful than those hitherto available only through weeks or months of life in Indian settlements. The industries, too, will be normal, and visitors will be enabled to obtain as souvenirs or specimens for scientific study, objects of Indian handiwork produced by native methods under their own inspection. These will include blankets and woven belts; vases or ollas, plain and decorated; baskets for cooking and other purposes; native metal work in silver and copper; moccasins, medicine bags and other articles of dressed skin; feather work and bead work in bone, shell and porcupine quills; bows, arrows and quivers, with arrow points of stone, bone and antler; fire drills, etc. The transitional phase of aboriginal life will be illustrated by a typical sutlery, or trading post, through which most of the tribal groups will obtain supplies.

SECTION OF ARCHÆOLOGY.

The collections exhibited in this section will be installed in the permanent fireproof structure known as the Anthropology Building. The greater part of the exhibits are contributed by countries and States. From Mexico—the land of the Aztec and seat of the highest native advancement in North America—comes a remarkable collection, including originals and reproductions of her most striking relics; carved idols of stone and wood and decorated figurines of fictile ware; obsidian cores and blades, the latter so excellent as to serve for surgical instruments or razors; calendar stones and other calendric inscriptions; native hieroglyphic books on maguey paper; primitive sunbursts of polished obsidian and pyrite; amulets and esoteric emblems of beaten and semi-fused gold; sculptures and portrait mouldings representing personages of Mexico's unwritten history—these are some of the contributions taken from the Museo Nacional and other repositories in the interests of the Exposition. A unique feature of the display will be a full-size reproduction of a portion of the ancient city of Mitla.

From Egypt come collections befitting the Land of the Lotus, in which civilization found its earliest germ; an entire tomb, mummies and mummy cases of royal personages and of the deified cat, with scarabs and other sacramental symbols of an early cult, are among the objects now on the way from Cairo. Egypt is the world's treasure-house of antiquities, and from these the finest and most typical have been chosen to tell the tale of her rise and the decline of her dynasties. These will include restorations in miniature of some of the most notable sites, so wrought as faithfully to reproduce the original

character. France sends a collection of rare relics designed to illustrate the development of prehistoric man from his advent in tertiary times up to his entrance into the Bronze Age, as traced by her eminent archæologists; the clipped flints ascribed to the Ancient River Men being given prominence.

Under a special State appropriation, Ohio contributes a rich collection of relics left by the mound-building Indians, who inhabited the fertile valleys of the Ohio and the Mississippi up to the times of D. Soto and La Salle. The exhibit will comprise map models of the Great Serpent Mound, the remarkable circular earthwork of the Miami Valley, and other reproductions, as well as a rich collection (from the Museum of the State University) of stone implements and weapons, bone fish-hooks and needles, copper gorgets and knives, and other artifacts recording the industrial life of one of the most advanced native populations of our present territory. Several other notable collections are in preparation by institutions and individuals; the foregoing are representative of the whole.

In addition to the special collections, plans are under way for exhibiting a number of what may be called synthetic series illustrating the greatest among the early advances of mankind. Perhaps the initial step in human progress was the conquest of fire, since man is essentially the fire-making animal; and this step will be illustrated by a series of devices running from the fire-drill and fire-pump representing the stage in which fire—the Red Flower of the East Indian lore—was thought an animate deity and its production a vital process, through pyrite (or fire-stone) apparatus to the flint and steel and tinder box, and thence to the sulphur stick and phosphorus match standing for the stage in which fire is recognized as a chemical process. Scarcely less important was the development of the knife, which will be illustrated by prehistoric relics and primitive artifacts, ranging from the emblematic tooth and talon of lowest savagery through the sharp edges of shell and bamboo stem to the blade of wood and chipped or flaked stone, and thence to cold-hammered copper and meteoric iron, and on to the stage of hot forging with the alloying and smelting of modern metallurgy; for although the way was long from tooth of deified beast as a symbol of supremacy to the jeweled sword as an emblem of militant power, its course may be shown in a few score specimens properly arranged and labeled.

Another marker of human progress was the evolution of the wheel—the basis of all modern mechanics—which is easily represented by a series of objects from its beginning as a divinatory or gaming device through its faith-inspired use as a roller under heavy beams and stones, up to its employment in primitive vehicles when animals were domesticated, and thence to its incorporation in machines as a transmitter of power—indeed, the Exposition grounds will reveal every stage in the evolution of the wheel, from the pole and ring game of the



GROUP OF MEXICANS IN THEIR NATIVE COSTUME.

This cut illustrates the Mexicans and their costumes as they are at the present time. One can form little idea from the cut of the prehistoric condition of this people, yet the belief that the conquest entirely crushed and demoralized the people, is refuted by the view given of this happy and docile group.

A MICHIGAN EARTH-WORK AND ITS IMPENDING LOSS.

BY HARLAN I. SMITH.

A prehistoric earth-work in Ogemaw County, Michigan, is in danger of being destroyed. The land on which it is located should be purchased and made into a public park, under the supervision of the State or some permanent society. A law could then easily be passed to exempt from taxation parks enclosing prehistoric works, and not held for profit.

This earth-work surrounds a nearly circular area, about 200 feet in diameter. The embankment is over two feet in height. Outside of it is a ditch over two feet deep, from which the earth may have been taken to form the wall. There are three openings in the embankment with corresponding interruptions in the ditch. These were probably entrances to the fort.

The earth-work is located in a lumbered tract of wild land within four miles south and west of West Branch, Ogemaw County, Michigan; it is a short distance (about one-quarter mile) north of the house of Mr. James Rabidue, and appears to extend across the section line, and to lay in both the southeast of the northeast of Section 33, and the southwest of the northwest of Section 34, both of Town 22, north of Range 1 east.

A logger's road about six feet wide, winding through the country crosses the embankments and reduces them somewhat. The ditch has been filled with logs where the road crosses, the road being narrow has damaged only a slight part of the entire work.

When I visited the place in 1901, men were at work between the embankment and Mr. Rabidue's house. They had begun a slashing for the township road which would replace the logger's trail, and was to run on the north and south section line. Sighting along this irregular slashing, the line appears to cross about the middle of the earth-work. It is probable that the road will be, or has now been, built nearly on the line, but that only a single track, without ditches, will be made at present, leaving a full-width graded road for some years in the future. A single track will only double, at most, the destruction begun by the logger's road, and it may cross in the same tracks, in which case there would be no more damage; but a regular four-rod graded road with ditches, crossing the earth-work would practically ruin it.

In case this road has now been built and the earth-work destroyed, the purchase of this site for a park would no longer be desirable, if one of the four similar earth-works, some miles east of West Branch, along the Rifle River, may be secured for a reasonable sum. It would be well to do this now, rather than to wait until danger threatens it. Living at a distance, the

friends of science are not apt to learn of such danger until too late, as is even now possibly the case with reference to the earth-work near Mr. Rabidue's place. The land on Sections 33 and 34 is, perhaps, worth about \$10 an acre, and the earth-work may be on one acre, or at most, only four; the owner, however, may not care to sell less than ten or even forty acres in a piece, and it may lie on the land of one or even four owners. It is probably, however, on the land of the Gale Lumber Company, which would doubtless sell in as small a parcel as was desired, if informed that the use for which the land was desired was to make a public park in order to save the earth-work.

Some one interested in Michigan's future, should buy the land, say two or three acres, upon which the earth-work is situated and set the place aside as a public park, before the graded road is completed. Such has been done in Ohio for the Great Serpent Mound and Fort Ancient, and the Ohio Legislature passed a bill relating to any land on which a pre-historic work is located and not held for profit, exempting the same from taxation. This law is mentioned on page 873 of the *Century Magazine* of April, 1890. If such a bill were enacted in Michigan, perhaps some one could be persuaded to purchase and set aside as parks the lands on which one of each of the pre-historic earth-works, peculiar to, and characteristic of Michigan, are located.

If this site is purchased, a road may be made to pass at one side of the work, or may be divided and be built on each side of it. The rubbish in the ditch can be taken out and the place fenced. Some farmer near by might be engaged as a caretaker, in return for the use of the park as pasturage. The line dividing the hard from the soft timber passes within a few hundred feet of the place, and this makes it interesting to foresters, botanists and zoologists.

The title of the park should be placed in the Detroit Branch of the Archæological Institute of America, the State University, the Pioneer and Historical Society, or some other public Michigan institution.

HUMAN BONES FOUND NEAR GALVESTON.

A LETTER COMMUNICATED BY MR. JAMES DOUGLAS.

[Printed in the Bulletin of the American Geographical Society, December, 1903]

DR. JAMES DOUGLAS, President, OCTOBER 12, 1903.
El Paso & Southwestern R. R. Co.

DEAR SIR: Complying with your request to furnish you the data relative to the human bones found in the ballast pits of the Galveston, La Porte & Houston Ry. (now part of Southern Pacific) near Galveston, Texas, I beg to say:

The ballast pits are situated at the mouth of Clear Creek,

about thirty-two miles southeast of Houston, Texas, and twenty-five miles from Galveston, and lie between the creek and the bay. Originally they covered about twenty acres, and rose to an elevation of eighteen or twenty feet above mean low tide. The deposit consisted of about 50 per cent. shell of various kinds, oyster, clam, etc., 40 per cent. gravel, and 10 per cent. coarse sand. The whole deposit was covered with about eight inches of soil, and had a dense growth of live-oak trees, some of which seemed very old. The deposit was in seven distinct strata, averaging about $2\frac{1}{2}$ feet in thickness, with about two inches of black earth between.

All the strata were very much the same, except the bottom one and the second one from the top. These two had very little gravel in them, and consisted of oyster shells (larger than in the other strata) and black earth, and it was in these two "veins" that we found the human bones, one "layer" of bones a little over three feet below the surface, and the other at sea level about twenty feet below the surface.

We found very few bones in the upper stratum—probably ten per cent of the whole—the greater majority being at about the present sea level.

No accurate count of the total number found was kept, but over fifteen hundred were actually tallied, and a conservative estimate would be five thousand.

At first the gravel was loaded by hand, and during this period the foreman counted the skulls, but, later on, a steam shovel was put to work, and after that no count was attempted, though the bones were uncovered daily until the entire pit was worked out.

We usually found two or more skeletons together, and, in one instance, found fourteen, all practically touching.

They were, of course, in no regular order, but were in every conceivable position. When first exposed the bones were wet and soft, but after drying in the sun would be fairly hard and firm. After the steam shovel was put to work, practically all the bones were broken when they got to the surface. Some of the skulls were of enormous size, and they all had low foreheads. All seemed to be adults, and one noticeable feature was the almost perfect condition of the teeth, which showed absolutely no sign of decay.

Several broken pieces of pottery were found, also some presumably ivory beads, about $1\frac{1}{2}$ inches long, with a hole lengthwise through the centre and a diagonal groove on the outside.

Some of these bones were sent to the Pan-American Exposition at Buffalo some years ago.

The last of this shell deposit was removed during the summer of 1896.

Yours respectfully,

H. J. SIMMONS,
General Superintendent,

ARCHÆOLOGICAL NOTES.

A PREHISTORIC VILLAGE has been found in the Rhön Mountains in Bavaria. The village contained twenty-nine funnel-shaped dwellings, eight to ten meters in diameter, equal distances apart. A thick slab of sandstone, used in grinding, lay in front of a hearth, in which ashes and cinders were found.

ROMAN ROADS IN BRITAIN.—A book on this subject, written by Thomas Codrington, is published by the Society for Promoting Christian Knowledge. This does not go back to prehistoric times, and throws no light on the roads which prevailed in that age, but it seems probable that the ancient circles and standing stones were connected with one another by trails at least.

PREHISTORIC STUDIES IN AUSTRIA.—Under the auspices of the Vienna Academy of Science there have been brought to light many Neolithic settlements, with painted pottery, a few of them decorated with patterns; also ladles with chevron and other patterns, and human and other figures. Beaver, wolf, fox, lynx, and stag dominated, but the domestic dog and pig were also found.

FAMILY BURIAL GROUNDS.—The Journal of the Anthropological Institute reports the discovery of shells in barrows. In some barrows they were so remarkable as to convey the idea to Dr. Wright that the barrows were family burial grounds, and yet a great variety of shells were found in the same region, in East York Town. The interments varied from the Stone Age to the early Iron Age.

CAIRNS AND TUMULI have been found on the Island of Bute in Scotland. One of the cairns was superimposed upon a kitchen midden, which appears to be the earliest remains of man's occupation yet discovered in the islands. In one of the chambers a stone edged urn was found, also a drinking cup. This brings it up to the Bronze Age, the three ages being manifest in the same spot.

THE EXCAVATIONS AT GEZER.—The discoveries made at this point has shown conclusively that many things are hidden under the soil of Palestine which will, undoubtedly, throw much light upon the early history of that land, and probably confirm the Scriptures. A model of the ruins of Gezer will be shown at the St. Louis Exposition. The discovery of infants' bones buried under corner stones indicates the prevalence of infant sacrifice, and explains the passage: "The man, who in the days of Ahab built the wall of Jericho in his oldest son, and set up the last gate in his youngest son."—Kings xvii : 34.

ORCHOMENOS.—A site of an ancient city in Bothnia, is proving to be of great interest. Here was buried at the foot of the slope the Treasury of Minyas. Last spring excavations were renewed by Prof. Furtwangler, of Munich. During the first days of digging the remains of a palace on a large scale was found, full of Mycenæan vase fragments; also wall paintings, and other articles. In technique, conception, ornaments and figures the paintings agree exactly with the Cretan palace of Knossos. This confirms the supposition that Crete was the real center of Mycenæan civilization. Only bronze implements are found; no trace of tin. The most important result is the assurance of a close connection with Crete.

CHINESE JADE is chiefly brought from the Himalaya Range, between the desert of Gobi and Thibet, and from Khoten in Yak and still further west. It was a precious stone and was manufactured into tablets as early as 700 B. C., or before the time of Confucius. The term as employed includes two minerals—jadeite and nephrite. By the mere process of handling and inspection it is impossible to distinguish one from the other, but the specific gravity of jadeite is considerably greater than nephrite, and varies as one, three, nine. Jade is much the harder of the two. Fire and steel can do it no injury. The famous Buddhist Hsuan Tsung, who travelled to India in 700 A. D., speaks of a jade lake, or a lake where people go to collect jade. Jade occurs in two colors—white and green. The great Mongol, General Bayan, while digging a well at Boteu, is said to have come across a statue of jade, three or four feet high. Elsewhere we read of two bowls of jade, which would revolve within one another but could not be separated. There is a record of a jade lamp, seven feet five inches high, and five branches, with a dragon coiled around each branch.—*Century Magazine*, Jan. 1904.

EDITORIAL NOTES.

HYKSOS AND HITTITES.—Three writers, Prof. J. M. MacKay, Percy Newbury and John Gorstong, have written on the above subject, and take the position that the Hyksos kings were Hittites. An article in *Nature*, November 12, 1903, shows that the same opinion was advanced as early as 1879, but has not been fully adopted. In fact there are some fatal objections to it, as the supposition is that the immigrants depicted on the walls of the tomb of Beni Hassen are Hittites, whereas they have every appearance of being Semites and not Turanians. Prof. Sayce argues that the Hittites were not Semitics, and shows this from their physiognomy.

CHEDORLAOMER AND HAMMURABI.—In Genesis there is an account of an invasion upon the cities of the plain, where the

Dead Sea now is—four kings against five, in which the name of Chedorlaomer and Amraphael are given. It has been discovered that the name Chedorlaomer means "Kudur," "servant," Lagamar an Edomite deity; so that Chedorlaomer was a servant of the Elamite god. Amraphael was another name for Hammurabi, whose remarkable code has been discovered. The invasion occurred about 2200 B. C. The supposition about the laws is that they were such as were extant in Babylonia, but they differed from the Ten Commandments, in that crime was punished in Babylonia because it was injurious to society. The civil code fixed penalties. With the Mosaic law, crime was punished because it was an offense against God. Babylonian law was the law of Caanan down to the time of the conquest by the Israelites, but after the conquest, religion which consisted in the worship of one God prevailed.

AMERICAN ORIGINS.—The subject of American Origins has been discussed many times in the pages of THE AMERICAN ANTIQUARIAN, and its pages are still open for further discussion. There are archæologists on this continent who treat the problem as already solved, and consider that all forms of culture, religious beliefs, myths and symbols, and art products were developed independently in America, and sneer at those who hold a contrary opinion; and some of the journals published are intolerant of the other opinion. It shows no superiority in anyone when he cuts off debate on any subject, as if his position was the correct one and nothing more was to be said. The Americanist who is studying the origin and development of civilization may think that there are many evidences of a separate development on this continent, independent of every other, but those who have studied the Oriental mythology are fully as well qualified to discuss the subject, as he who decides before hand and cuts off debate. We have no sympathy with intolerance or dogmatism in science, any more than we have in religion, and take issue with everyone who consciously or unconsciously passes resolutions and expects everyone to adopt them.

THE BIBLICAL WORLD.—This journal lacks only three years of being as old as THE AMERICAN ANTIQUARIAN, although it has changed its name several times. The February number contains an article by Prof. Samuel Ives Curtis, of the Chicago Seminary, entitled "Researches in Syria and Palestine Conducted in the Summer of 1903," and another on the "Feasts and Fasts in Modern Palestine," by Dr. E. W. G. Masterman.

EDITORIAL.

THE DISTRIBUTION OF PILE-DWELLINGS.

The peculiarity of pile-dwellings is that they are made of wood, and yet many of them belong to the Stone Age. It is remarkable that wooden structures which were erected during this age should have been preserved so perfectly that archæologists have been able to reconstruct them, and to decide as to their shape, the manner in which they were built, their distance from shore, and the class of people who occupied them. This is owing largely to the fact that the pile-dwellings of Switzerland were buried under deep layers of mud, and so were kept from the destroying influence of the elements. It is well known that wood, when buried under soil and away from atmosphere, may remain for many ages and its fiber and character may be easily determined by the geologists and naturalists.

Along with the wooden piles, many remains of fruit, grain, and woven garments, as well as stone and copper relics, were discovered in the mud in a fair degree of preservation. These have furnished a view of the domestic life and social condition of the people who dwelt in the interior of the continent of Europe in late prehistoric times, and have thrown much light upon their social condition and their art and architecture.

The mounds, cists and stone chambers when opened contain the remains of bodies and relics which had been used, but the remains of the Lake Dwellings have furnished a view of the people as they were when alive, and it is easy to draw a picture of their social condition and to imagine their mode of life.

The Lake Dwellings of Switzerland may be assigned to three different periods. The first is marked by rude stone relics, coarse pottery and no ornamentation; the second, by hatchets, made of red nephrite jade, and a few copper relics; the pottery is fine, ornamented, and has projecting handles. The third was marked by copper weapons and tools, stone hammers and hatchets carefully pierced, beads, necklaces, pendants, buttons, needles and horn combs, vases provided with handles and covered with ornaments. The distance from the shore of the ancient Lake Dwellings varied from 131 to 198 feet, the more recent, from 656 to 984 feet. Some of the pile dwellings were held by piles driven into the mud, others by piles which were kept in position by blocks of stone, called *packwerbauten*, and by the Germans, *steinbergen*. The number of piles is very great, varying from 40,000 at Wangen to 100,000

at Robenhausen. The area occupied by the station varies from 1,200 to 21,000 square feet. The houses on the platforms were made of wattle and hurdlework, and sometimes of piles split in half, and the floors were of the same material and divided by thick layers of clay. These houses are the earliest specimens of house architecture that have been found in Europe.

It has, however, been shown by recent discoveries that a similar mode of life prevailed in many parts of the globe in prehistoric times, and survived into the historic days.

The point which interests us at the present time, is the distribution of the pile-dwellings. They were known in early historic times as situated in the midst of the forests of Europe, and as marking the different stages of growth through which society passed in that region. Latterly, however, it has been noticed that similar structures still occupied, are scattered along the shores of the different continents and near the islands of the Pacific, though few have yet been found on the western coasts of America.

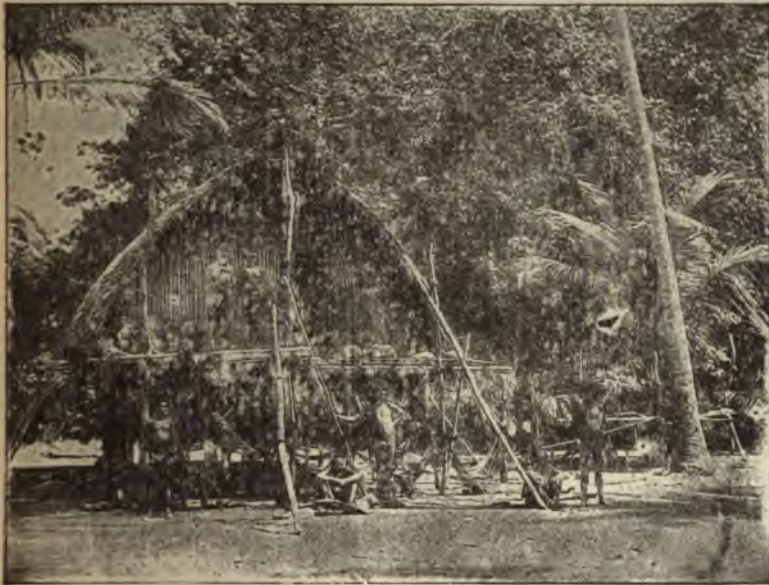
This custom of erecting houses above the water was not confined to Europe or Asia, or the prehistoric age, for there are many islands scattered over the South Pacific, near which houses are still to be seen built above the water, specimens of which may be seen in the cuts. This custom became so common, that many of the houses on the islands themselves were built on high posts. This custom prevails at the present time in the Philippines, in Borneo, and elsewhere. The reason for it is that it protects from floods and from reptiles. It is probable that it came originally from the Malay habit of erecting buildings over the water. In the olden time it was the custom when the first post was set in the ground to sacrifice a slave and place the body below the post, a custom which seems to have spread as far as to the Northwest coast of America.

One of the cuts presented herewith shows the pile-dwellings situated in the Southern Pacific. These are quite remote from the land, and some of them are modern in their construction. The piles are not so substantial, or so well constructed as were those which were built by the early inhabitants of Switzerland in prehistoric times, and yet they illustrate the survival of a custom which was prevalent during the times.

Another of the cuts illustrate the manner of constructing houses upon land, with posts below designed to support them, the platforms and floors being raised above the surface of the earth, very much as the platforms were placed above the surface of the water. Such dwellings, however, are found in tropical regions where vegetation grows rank, and where venomous reptiles are numerous.



PILE-DWELLINGS NEAR BORNEO.



HOUSES OF THE DYAKS BUILT ON HIGH POSTS.



RUDE HUTS OF THE CALIFORNIA INDIANS.



HOMES OF MARITIME PEOPLE.

BOOK REVIEWS.

THE FIRST OF EMPIRES: "BABYLON OF THE BIBLE." By W. St. Chad Boscawen. New York: Harper Bros.

Mr. Boscawen's account of the earliest history of Babylonia will be read with great interest by those who would keep pace with progress of Assyriological research during the last decade or so. As year by year the mounds are slowly being forced to lay bare their treasures, discoveries have followed in quick succession; and, although merely a fraction of the inscriptions have been edited, we know almost as much of ancient Babylonia and Assyria as we do of Greece or Rome. We have become acquainted with civilization remarkable as much for its advanced state of development as for its great antiquity; hundreds of contract-tablets bear witness to its wide-spread trade and commerce; dozens of royal letters have thrown a flood of light upon the organization of the kingdom, and the recent discovery of an elaborate Code containing some two hundred laws, was a valuable record of the greatest sociological interest, which permitted us to see into the internal economy of this ancient seat of culture. Thanks to the literary activity of later centuries, and especially to the energies of the Assyrian King Asurbanipal, there are preserved numerous religious and mythological texts, copies of originals which, in the opinion of Assyriologists, date back to the third millenium at least. Such are most important sources for the reconstruction of old Babylonian history, and it is not until the period of the native Babylonian dynasty, of which the famous Khammurabi (*circa* 2250 B. C.) was the most prominent figure, that a more or less consecutive and complete record is recoverable.

Mr. Boscawen's sketch of the origin and growth of the Babylonian empire "from the earliest times to the consolidation of the empire in 2000 B. C., draws largely upon the sources above mentioned. Of real historical information we have but little, and at the best it is obscure. He has, however, made the most of his scanty material, and, at all events, he has succeeded in laying before the reader a tolerably clear account of life and thought of the oldest period. His book popularizes the results of recent excavations and decipherment, and has not only the merits, but, unfortunately, a great many of the demerits, of popular writings. It contains a good deal that is not new, and some new things that are not good. The sub-title "Babylon and the Bible" suggests the Babel-Bible controversy, and, of a truth, Mr. Boscawen is pre-eminently one of those who trace in Hebrew history and literature the working of Babylonian culture and civilization. J. OFFORD.

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MAN'S PLACE IN THE UNIVERSE. A Study of the Results of Scientific Research in Relation to the Unity or Plurality of Worlds. By Alfred L. Wallace, LL. D. New York: McClure & Phillips.

The position which the author of this book takes, is that this world is the only one out of the countless multitude, that is inhabited by intelligent beings, like ourselves. The author refers to the great belt of telescopic stars called the Milky Way, and magnifies the extent of the material universe. He speaks of the nebulae and spiral forms and the heavens outside the solar system, also the distances of the stars. The distances are so vast that the longest available base line is less than one second of a circle. He speaks of the evolution of the star system. He says that the sun is a typical star, then describes the nebulae and meteoric hypotheses, and asks the question: "Are the stars infinite in number?"

As to whether there are other material universes, he offers no opinion, though many astronomers think the stellar universe is limited in extent.

ALEXANDRIAN HEXAMETER FRAGMENTS. By Edgar J. Goodspeed. Reprinted from the *Journal of Hellenic Studies*. Vol. XXIII 1903.

THE DECENNIAL PUBLICATIONS' GREEK PAPYRI FROM THE CAIRO MUSEUM. Together with PAPYRI OF ROMAN EGYPT FROM AMERICAN COLLECTIONS. By Edgar J. Goodspeed. Reprinted from Vol. V. Chicago: The University of Chicago Press, Pp. 78. 1902.

It is a credit to the University of Chicago that documents which vary in age from 3000 B. C. to 300 A. D. should be reproduced, some of them in the cuneiform language and others in Greek. Prof. Robert Harper has published the Code of Hammurabi from the cuneiform, and Prof. Goodspeed has translated the Greek papyri. Prof. Goodspeed has given special attention to the Greek papyri. He has discovered an Alexandrian Hexameter, which is no longer extant, belonging to the second century; also fragments of the 15th book of the *Odyssey*, a medical fragment of the second century, a letter of the third century, and a loan contract 111 B. C.

The reprint from the *Journal of Hellenic Studies*, has a fragment which is printed so as to show the color of the papyrus and the form of the Greek letters. The fragment may belong to the proper epic poem of the Alexandrian time.

* * *

JOURNAL OF THE TRANSACTIONS OF THE VICTORIA INSTITUTE, OR PHILOSOPHICAL SOCIETY OF GREAT BRITAIN. By the Secretary. London. 1903.

Prof. Lionel S. Beal addressed the Victoria Institute, February 3, 1902, on the subject, "Water Essential to All Life," in which he takes the ground that life is absolutely distinct from matter, and that there is general gradation from the physical world to the life world; that life is absolutely different from non-life; that all the life we know comes from life only. Life depends not only on the great part of the body which we can see, but upon those minute living particles which exist in all the tissues and organs. These particles used to be called cells, but each so-called cell consists of two parts, the living and not living. Every part of the active living matter is moist and receives its nourishment dissolved in water. The portion of solid matter dissolved in water is enormous. The organ which does the most wonderful work in all living nature, is the brain.

Mr. Walter Kidd read a paper on the "Adaptation and Selection in Nature and their Bearing on Design." He says adaptation and selection is obvious, that natural selection is unnecessary. Design is imminent in the marvelous change of life, whatever be the way the links have been formed by the Divine Artificer.

Another article is upon "The Preparation of Man's Abode," by James Loebly, F. R. G. S. This address also has the same ring to it, that the others have. All seem to contradict the materialistic view of creation and life.

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A BRIEF HISTORY OF ROCKY MOUNTAIN EXPLORATION, WITH SPECIAL REFERENCE TO THE EXPEDITION OF LEWIS AND CLARK. By Reuben Gold Thwaites. With illustrations and maps. New York: D. Appleton Co. 1904. Pp. 252. Price, \$1.25.

This book treats first of the explorations among the seven cities of Cibola by the Spanish. Next the French explorations from the east, by Nicolet and Charlevoix and others. The English explorations commenced first, by the Hudson Bay Company. During all this time, for over 200 years, the dream of navigators was to discover the passage into the South Sea. In 1761 Alexander Henry, a Scotchman, was travelling over the prairies of Minnesota. In 1766 Carver descended the Fox River. In 1792

McKenzie reached the Fraser River; he was an Englishman. Thus we have the four nationalities.

The Missouri became a part of the Pacific. Lewis and Clark were sent on their journey across the continent about the time of the Louisiana purchase. Territorial expansion began at that time. About a hundred pages of the book are given to the journey of these two explorers. Next there follows a description of David Thompson, who reached the Red River on the north west. Fraser who was a clerk of the North West Company in 1857. John Jacob Astor began the fur trade about this time. John Pike was the next explorer. He passed over the Kansas prairie, crossed the Red River in the south and was taken prisoner by the Spaniards. Stephen Long made trips to the Red River. Steamboats had then come into use.

George Folsom has published an account of a series of adventures on the Rocky Mountains. Henry R. Schoolcraft was studying the sources of the Missouri. Maximilian was at the Missouri River. About this time there was among the Mandans. In 1856 Mark Whitman and Rev. Mr. Spaulding reached Oregon. In 1853 John took up the line of the Oregon trail. Fremont's exploration took place about this time, supplemented by William Mayhew.

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THE INDIAN REQUISITE FOR THE REFERENCE OF RELICS TO A
GLACIAL AGE. By T. C. Chamberlain. Reprint from the *Journal of
Geology*, Vol. XII, No. 1, January and February, 1903. Chicago: The
University of Chicago Press.

Prof. Chamberlain's position in this pamphlet, is as follows: The belief that man originated upon the Eastern continent is supported by the preponderance of geological evidence, but the question is one of date. Evidence for assigning man to a glacial period, is to be sought in glacial and interglacial formations. There are sources of error connected with the interglacial deposits, though they present the most promising field. The uncertainty is owing to the very unpromising character of valley gravel as a source of really good evidence.

This pamphlet was written after the finding of the Lansing skull. The discussion over this skull has ceased, but the pamphlet will be useful when the next discovery is made and the discussion begins anew. The field for discovery is, however, very broad, and includes the regions of Central America as well as the Northwest coast; each of which localities presents a different problem and one disconnected from the glacial deposits.

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No. 3.

COMPARISON OF THE CODICES WITH THE ORDINARY PICTOGRAPHS.

BY STEPHEN D. PEET, PH. D.

The codices which are so common among the tribes of the Southwest, have been studied with great care for a number of years, and many things which were formerly obscure have been cleared up, but the problem as to their origin is still unsolved. It would seem, however, to those who have become familiar with the pictographs and other symbols which are still common among the uncivilized tribes, that there was a very close connection between them, and that both treat of the same subject. There was, to be sure, a great difference between the material which was used in the codices and that in the ordinary pictographs. The codices were made out of paper, generally folded like a fan, but so arranged that they could be drawn out, and the hieroglyphics and pictographs upon them could be read, as in a book.

The Codex Peresianus, discovered by Leon de Rosny in the National Library, Paris, 1859, consists of 11 leaves, 32 pages, each 9 inches long, 5½ inches, and is full of both symbols and pictographs. The Codex Troano, found by Brasseur de Bourbourg, in the possession of Don Juan Tro y Ortolano, and called Troano from the name, consists of 35 leaves, or 70 pages, each of them larger than the Dresden Codex.

The Fejervary Codex is also another of the so-called books of the Mayas. This contained pictographs which in themselves are suggestive of the calendar system and the religious ceremonies, and at the same time of common or ordinary events. One peculiarity of this codex is that it has a pictograph in the form of a Maltese Cross with a tree in each arm of the cross; on either side of the tree, a human figure, and above the tree, a bird. There are loops between the arms of the cross, and within each loop a staff, or long reed; while in the center is a human figure, armed with the spear thrower, or atlatl. There are bands surrounding the loops and trapezoids, with dots, thirteen dots

on each side,—the pictographs and the symbols being suggestive of the Tree of Life, but the dots suggestive of the calendar system.

The Tableau Des Bacab has the same combination of pictographs and time symbols. The band surrounding the central figure contains twenty small circles; the lines drawn from the corners and along the borders contain thirteen dots, while the pictograph in the center contains a tree, with two figures under the tree, which may be compared to our first parents, or the first pair; while upon either side of the tree are pictographs which represent the human sacrifice, a bound mummy, two per-



TREE OF LIFE FROM TABLEAU DES BACAB.

sons seated in a house, and two other persons offering incense.

(1) In reference to all of these codices, it may be said that they resemble the pictographs of the wild tribes in some respects, though they show much more acquaintance with the art of illustration, and much more advancement in the science of enumeration and in the art of writing, and yet it is a question whether the hieroglyphics had been carried to that stage in which they could be made to convey information to any except to the priest, or those who were trained to the work. It would seem as if the purpose of the priests was to conceal their knowledge from the common people, and yet make the codices suggestive of religious rites and ceremonies. There is no doubt that the religion of the Mayas was quite similar to that of other tribes farther north. It abounded with a belief in the supernatural beings which were connected with all the

operations of nature, as well as the industries of man, though it had reached that stage in which personified beings were supposed to preside over the elements and to control the universe. These beings were not placed in the sky, or so remotely as to be unseen, but they were supposed to dwell upon the earth and among men; but had different spheres of activity, and had control over the different operations of nature and had different characters, the character of each corresponding with his province or his sphere.

The pictographs are easily interpreted, and the symbols, though they are somewhat arbitrary, are suggestive of time counts, and have to do with the calendar. So we may say of all the codices, that they contain pictographs which are easily read, for they relate to the ordinary industries and such scenes as might take place among almost any people, and especially a sedentary people, as the Mayas were. We must remember, however, that nearly all the American aborigines were more or less familiar with the calendar system, and were accustomed to recognize the different phases of the moon and their relation to the ordinary pursuits, such as the planting of corn, the pursuit of game, and other industries. When we come to the tribes further west, we find that there were many things which served the same purpose as the codices. Among these we may mention the various rock inscriptions which were common among the cliff dwellings, the sand paintings which were common among the Navajos, and the sacred dramas and religious ceremonies which were common among the Pueblos. These were generally under the care of the priests, or sacred men, and were explained and transmitted by them. There were certain persons also, who were taught their significance and were able to interpret them to the common people. The utmost care was taken among the Navajos to see that the sand paintings were made exactly right and that the story was told without variation.

(2.) It is true that all of the tribes divided the sky according to the points of the compass and gave to each part a different color, and assigned a different animal or symbol to the parts of the sky, although they varied according to locality. Among the Mayas, the south was denoted by a blue field, and the rabbit was the symbol; the east, by a red field, and the cane was the symbol; the north, by a yellow field, and the flint was the symbol; and the west, by a green field, and a house was the symbol.

Many of the codices divide the sky into four parts according to the cardinal points, and seem to ascribe to these different parts certain nature divinities, which are used as symbols, though they drew these symbols from familiar objects which were to be found upon the surface of the earth or water, and had no counterpart in the sky above. To illustrate, in the the Vatican Codex there were five signs, which were placed over

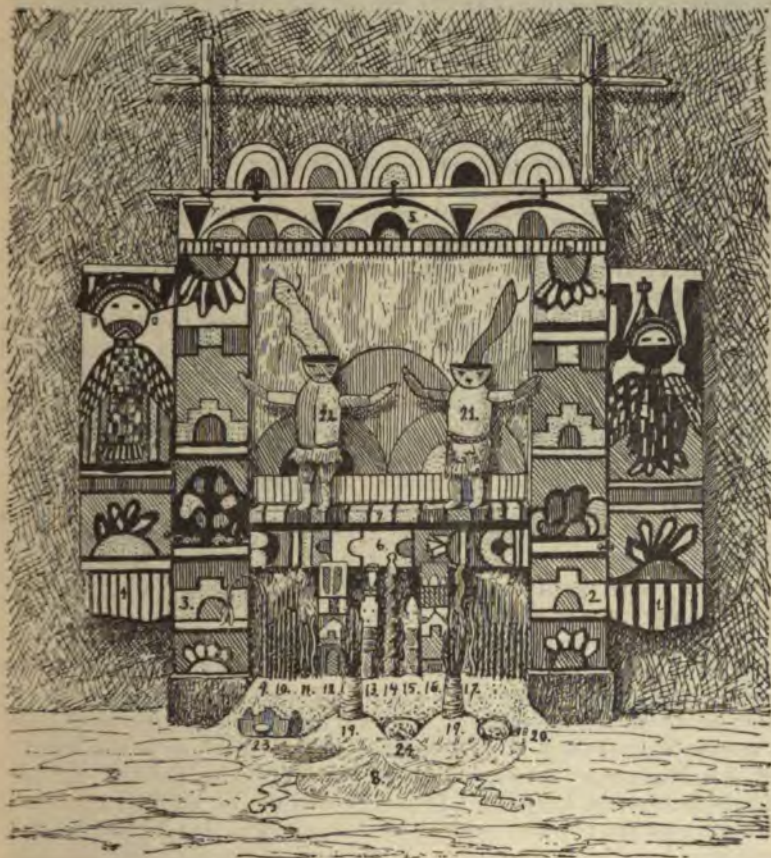
against each of the points of the compass,—at the south, the flower, grass, a lizard, a bird and a rabbit, each of which were emblems of some attribute, such as the shortness of life, nakedness, etc. They placed over the signs of the west, a deer, an ape, the house; at the north, a tiger, skull, flint knife, cane, human head; at the east, a serpent, earthquake, water and the moon. The cardinal points were symbolized by angular loops and trapezoid figures, with various symbols in the loops and in the figures. The red loop was at the top, the east; the yellow at the left hand, representing north; the blue loop at the bottom, representing the west; the green loop at the right hand, representing the south. The symbols were as follows: the cane to the east; the tecpatl or flint to the north, the house, calli, to the west; and tochtli, the rabbit, to the south. The significance of these symbols as applied to the points of the compass and the symbols themselves varied. In the Vatican Codex we observe four trees, with two individuals clasping the trunk; one of them red, the other, white. On the top of each tree is a bird, or an animal, representing the different seasons of the year—spring, summer, autumn and winter.

(3) The use of the number 13 was common not only among the Mayas and tribes of Central America, but was also common among the hunter tribes of the Mississippi Valley. With them it was derived from the habit of watching the moon and counting the months by it, or making the lunar months the unit. There was no other division with them of the year, certainly, no such division of the year into the solar and sacred year, as the Mayas had. We find the numbers 8 and 13 on the shell gorgets, for there are four points, and sometimes eight points, to the sun; four sides to the square; four birds projecting from the square; four loops projecting from the corner of the square; but there are 13 dots in the loops, probably symbolizing the 13 moons. This gives rise to the inquiry whether there was any such connection between the shell gorgets and the codices, as to say that the one grew out of the other. On this point, we might say that, if there were any intermediate stages between the two, we might suppose that these codices had really grown up out of such primitive symbols; but these are wanting.

The sacred dramas among the Zunis, Sias, Hopis, and Tusayans resembled the codices, in that they were carefully guarded and every part of the ceremony was significant. There was always a story connected with every one of these ceremonies; a story which began with the Creation and involved the Deluge, and included the history of the people, with all their wanderings and changings. In fact they served the same purpose to these different tribes, as the Bible did to the Israelites, and they were as sacred to them as the Bible is to us. They also resembled the codices which were so common among the tribes of the Southwest, in that they served as calendars according to which the religious ceremonies and festivals were regu-

lated and the close connection between the position of the constellation of Pleiades in the sky and the time when the festivals were observed.

When we compare the so-called altars which were common among the Tusayans, with the codices found among Maya tribes, we shall find that the main difference is in the hieroglyphics, which are seen on the borders of the page, but the



AN ALTAR OF THE TUSAYANS.

idols carved in human shape and painted in different colors, and serpents, and birds, and rain clouds, and other symbols, are all present. We have built nothing upon the symbols, but there are myths which are on record, which so resemble one another, that they would seem to have come from a common possession, especially the myths which relate to the Creation, the Flood, and the different periods of time. The mythology of the people has been gathered into the sacred books, just as the

traditions of Polynesia and the Easter Islands have been recorded in pictures on slabs.

The comparison between the sign language, pictographs, Mide-songs and Bark records with the codices is certainly very suggestive. They together constitute the exponents of the religious thought of the people, and must be regarded as important, not as revelations of truth, but rather as signs of the progress of thought. No one would go to the codices to find out the religious truth, as he would to the Book of Revelation, but they reveal the struggles of the human mind to apprehend the truth, and the difficulties which are in the way of the pagan and heathen nations.

It is not known that the medicine men or priests, who made the sand-paintings and had charge of the altars and kivas, had control over the industries of the people, as the Maya priests did; still, the people and the priests, were in harmony, and the religious mechanism was not separated from the civil or social life, but, on the other hand, was an important part.

(4) There is another point to be considered in this connection. The drapery which was used in the religious ceremonies varied according to locality, and yet the patterns and the symbols became more and more complicated and suggestive as we pass toward the Southwest. The rude tribes had only the inscribed shells and tablets, while the agricultural tribes on the great plateau had their very elaborate paraphernalia of carved and painted sticks surrounding their altars, bowls of sacred meal, dolls, miniature birds and animals, and many other objects; but as we come to the more civilized tribes we find the altars made of stone, with grotesque images carved upon them; all of them suggestive of their mythology.

It is also to be noticed that the dress and costume of the warriors, and the sashes and head-dresses of the priests or medicine men, became more and more complicated, and every part of them was symbolic of some object in nature and had a symbolic meaning, which symbols were woven into the scarfs of the Navajo warriors, and painted upon the shields of the Zunis, but were borrowed from the objects of nature, such as the mountains, clouds, trees, and animals, and yet all the charts and symbols are suggestive of the early origin of the people and of their history.

It is however to be noticed that the same elementary symbols were preserved among all the tribes, the cross, the circle, the crescent, the suastika, the serpent, the rainbow, the cloud, the arch, the stepped figure, the cosmic symbol, the mask, the manitou face, the human eye, and the phallus. There were also many animals represented in the codices, though the animals are often in grotesque attitudes, with strange figures and colors, the significance of which was known only to the priests, and was interpreted by them; the codices being so complicated,

that it seems now almost impossible to ascertain their object or meaning. It does not seem that the long periods of time were taken into account by the rude tribes, for all that they undertook to do, was to regulate their own pursuits by watching the position of the moon in the sky and noticing the progress of the seasons. The corn planting and hunting were regulated by the moon and by the progress of the season; each succeeding year being the repetition of the past one.

Still, we must remember that the Delawares had a bark record in which there was recorded the history of their wanderings and their conflicts, and this was arranged according to the years and the rule of certain priests and chiefs, though it began just as the calendar stone does, with the story of the Creation. We must remember, also, that the Dakotas had what they called Winter counts, which were painted on the inside of buffalo robes



FIGHTING FIGURES FROM THE MOUNDS.



A MAYA WARRIOR AND CAPTIVE.

and which gave the history of the more important events of the tribe. The Mandans also had, according to Catlin, certain ceremonies, at the time of the initiation of warriors, in which the story of the Creation and Flood was dramatized; even Noah, the great ancestor, is supposed to have visited them. The Navajos have many sand-paintings which contain the record of certain important events, but their mythology goes back to the Creation and the time of the Flood. The Zunis have also, charts which contain the records of their wanderings.

We find nothing like the calendar stone out side of Mexico, and no evidence that there was a transmission of its symbolism or ritual from another region, though the tribes which were in close proximity, such as the Navajos, the Zunis, the Nahuas and the Mayas, are known to have borrowed from one another. The calendar stone is, however, very suggestive, for here we have many of the symbols which are common

among all the tribes, and the very division is quite similar and very suggestive. Here we find the serpent divided into thirteen parts. Inside of the serpent are circles, which are divided by towers into four parts; others by triangles; others by grains of corn; others by rosettes, and in the center is the face surrounded by four pictographs, each one containing a symbol of the four destructions of the earth,—one by earthquake, one by tempest, one by fire, and the fourth by a flood. This calendar stone has already been explained, and is shown to have been based upon the time divisions which were common among the people and at the same time symbolizes the products, and was designed to regulate the employments of the people. According to this, the world is divided into five regions, the year is divided into thirteen months, of twenty days each, making 260 days; but the points of the compass are symbolized as well as the great epochs of the universe.

The codices contain the same primordial symbols, and represent the mythology more in detail. To illustrate: in the Vatican Codex there are four trapezoidal figures, with the tree in the center, and a bird on the tree; on either side of the tree, a human figure clinging to the tree, one white and the other black. There are horseshoe figures between the triangles or trapezoids, with a staff running through the horseshoe and connecting with the bird on the outside.

Dr. Seler thinks that the two gods on either side the tree, making in all eight gods, with the fire god in the center, symbolize the nine deities, who presided over the nine hours of the night—the sun god, the maize god, the death god, the goddess of the flowing water, the goddess of dirt and sin, and the heart of the mountain god. The figure in the center represents the god of sacrifice. Mr. Culin has called attention to the fact that this god in the center is armed with the spear thrower. Dr. Seler recognizes the other gods in this codex, as the god of above and below, the goddess of palms, and the goddess of the house. On the other hand, he also recognizes the four times five, or the twenty months, as well as the twenty quarters to the Venus period. Dr. Forstemann regards it as an astronomical chart, and thinks the symbols refer to long periods. It, however, is a counterpart of the *Tableau des Bacab*.

Dr. Seler regards the codex as the national book, the astrological calendar, in which $13 \times 20 = 260$ days of the sacred year, $18 \times 20 = 360$ days of the solar year, and the entire calendar days of the entire year.

The codices common in Central America have many serpent figures upon them, as we have already shown. It is uncertain whether the tribes or people who use this serpent symbol in connection with the calendar were acquainted with the constellation of the great serpent in the northern sky. Although it must be acknowledged that they were familiar

with the figure of the great bear and the constellation of the Pleiades. This, however, does not prove anything as to their knowledge of the zodiac. In fact the division of the sky into great circles, such as the ecliptic and the equator, and dividing the spaces into zodiacal signs was peculiar to the civilized people of the far East, but was not practiced by the other historic races, though it is true that the Chinese had a representation of the sky drawn upon the shell of a gigantic turtle.

Among the Northern tribes bark was often used for the preservation of the records, though the rock inscriptions were more enduring than either bark or paper.

In reference to the colors used in some of the codices, it is possible that they were derived from the general habit or cus-



THE GODS OF THE CARDINAL POINTS.

tom of ascribing colors to the different part of the sky. Dr. Brinton says: "In Mexican philosophy the world was divided into three parts: the earth below, the heaven above, and man's abode between. The whole was represented by a circle divided into three parts; the upper part painted blue; the lower, brown, and the open part between, white. Each of these were again divided into three parts, making nine. When the Teztucan king built a tower of the universe, he called it the "Tower of Nine Stones."

According to Aztec mythology the heavens were thirteen in number, and thirteen divinities ruled over the world. The Quiches believed that thirteen was the number of the first ancestors, and they were divided into thirteen gentes. Mr.

Cushing speaks of the number thirteen as common among the Zunis, as the division of the sky above and the earth below into six parts each, make twelve, and the center, where the heavens and the earth meet, made the thirteen; exactly as the Chinese make nine the meeting point, the sky being divided into four parts, and the earth into four parts. This furnishes us with another analogy between the codices and the symbols which are common elsewhere. The Chinese had twenty-four mansions, and twenty-eight constellations or lunar mansions.

A stone at Copan is in the form of a hemisphere. On the top are symbols which correspond to the Ying Yang of the Chinese. In the center was a cup-shaped depression; around

the circumference was a ring divided into twenty parts, corresponding to the twenty days of the Maya month; across the top top was a curved line, while the symbol of the Ta Ki adds a third third arc, making a triskelis. The triskelis, suastika, and the cross are closely allied; they represent the movements of the sun with reference to the figure of the earth, and are understood by primitive man everywhere. We find the same figurative symbolism in China, India, Lycia, Assyria and Egypt, and on ancient urns in Etruria, Iberia and Scythia. It should be acknowledged that the



FIRE DRILLS OR PAINT MILLS.

priests did have hieroglyphics which were unknown to the common people. Benaventura, in 1670, said that among the inventions of the hero god Itzemna, was that of letters. Cogolludo (17th century) says they had characters which they could understand. Landa says the people had letters with which they wrote in their books their ancient matter. Dr. Brinton says: "The graphic system of the Mayas was very different from that of the Aztecs, though we have more Aztec than Maya codices." The natives of Yucatan made use of the characters and letters with which they wrote out their histories, their ceremonies, the order the sacrifices to their idols, and their calendars in books made of

of bark. These characters were understood only by the priests. Father Sahagun wrote a thesis on the judicial astrology of the ancient Mexicans. Still there are so many pictographs in the codices which relate to ordinary affairs, that we are able to interpret them, even when we cannot decipher the hieroglyphics. We have also the days and weeks and months, and so on, given us by dots which are equal to numerals; the four points of the compass represented by certain hieroglyphs, and the calendar represented by animal figures or pictographs.

Boturini has given to us the symbols for the four points of the compass and the four elements: Techpatl equals fire, also the south; Calli equals the earth and east; Tochtli equals the air and the north; Acatl equals water and the west. Herrera says they divided the year into four signs—a house, a rabbit, a cane, and a flint—and by them they reckoned the year, as it passed on; saying such a thing happened at so many houses, or so many flints, because their life being, as it were, an age, contained four weeks of years consisting of thirteen, so that the whole made up fifty-two years.

(5) Another fact is important: the symbols for the days were made up of such figures as were familiar to all, viz.: the ser-



MEDICINE RATTLE.



MORTAR.



FINISHER.

pent's head, the deer's head, the rabbit's head, the bird's head, a dog's head, and a flint; other objects which symbolize the days were such familiar things, as the reed and the grass. Even the calendar stone contained such familiar things, as the grains of corn, reeds, serpents, human faces, and towers, all arranged so as to symbolize the time periods, as well as different creations. There were certain symbols for counting which consisted of bars and dots; each bar representing five; each dot, a unit.

The serpent was the most common and expressive symbol, and had an important part in the codices as it had in the ritual ceremonies of the Zunis farther north. In some of the codices it is closely associated with the human figure, and may represent the clouds, but in the calendar stone, it performed the same part as the serpent did in the Scandinavian picture of the Igdrasil, the Tree of Life, as it formed the outer circle of the horizon.

(6) There were in the codices many figures or pictographs which represented the ordinary industries, such as the planting of corn, keeping bees, making paint, and carving. But along with the ordinary human industry there was a supernatural or divine activity, and nothing could prosper except as the two were united. Take for illustration, the picture given herewith, and read the upper part from right to left, the line

... the protection
... leaving of tapestries,



...the clouds are, etc.
...Next
...mingled
...to refer to the
...of the clouds,
...conspicuous
...among the Zuni
...rain clouds.
...which seem
...they are sug-
...the ordinary

To illustrate: in the Borgian Codex, there are four feather-headed serpents or dragons, which have two legs and long tails, with a feather plume upon the head, the body divided into thirteen parts. These are arranged so as to form the four sides of the square, the heads are in the center. But they have a border of circles, making exactly thirteen in each serpent. These may represent the thirteen years multiplied by four, making fifty-two years, which was the sacred astronomical cycle. This figure, taken with many others, shows that long periods of time were considered when the codices were made up. But whether they refer to historical events, or to natural events, is uncertain. The tendency with those who have studied the codices with this thought in mind, has been to magnify the time periods. Some of them have carried back the dates for many thousands of years, and have come to the conclusion that



SYMBOLS OF THE TWENTY MONTHS.

the Maya race began their history almost as early as the Babylonians, which was 5,000 years before Christ; such is the opinion of Mr. Henry Goodman. Dr. Cyrus Thomas recognized long periods of time in the codices, but has not held to extreme antiquity. The best parts of his explanation are those in which he describes the various religious ceremonies which occurred at the end of each year, and especially the end of the fiftieth year, in which the festival of the new fire took place. There were ceremonies at that time, in which certain images were carried to the gate and left there until the following year. These ceremonies are pictured out in the Dresden Codex, a codex in which each page is divided into three parts, the upper part representing a Chac, or animal with a long tail, carrying a frame on his back, with a peculiar figure in the frame. In the middle of the page, there is a figure, probably a priest seated

in front of a temple or a house, with a burning altar before him, and offerings in front of the altar. In the lower division is a picture of the image placed upon the stone upon one side, upon the other side, the image of a priest, with a decapitated fowl in his hand, and between them an altar, with the numerals for nineteen above the altar, and with grains of corn above.

This pictograph is repeated, with variations, in several of the plates of the manuscript Troano, and undoubtedly refers to some religious ceremony, probably to the ceremony in which the images are carried to the gates. In one plate,* the priest seems to be making an offering to a serpent divinity. Dr. Brinton describes this as follows: "A log folded in a role and surrounded by the leaves of the Tree of Life. In front are seen the serpent's head, indicating the flight of time; below this are footprints, which indicate that time is gone; beneath this is the sign pax, which means 'it is ended.'"[†]

There are various hieroglyphics crossing the page in lines and a column of numerals on the side, but the pictographs are more conspicuous than the symbols, though the symbols of the cross-bones and the fire and the altar are easily recognized. In one of the pictures, the Chac seems to be standing in what might be a boat, and carries a staff in his hand.

(7) It is to be noticed that each divinity was to be identified by certain symbols, which are suggestive of the different operations of nature. The god Tlaloc, who presided over water, was identified by a peculiar bulging eye; the god Quetzalcoatl by a cross on his garment; the god Huitzilopochtli, the god of death, by serpent fangs and serpent eyes. This method of representing personal divinities is similar to that which prevailed on the Northwest coast, where an animal is portrayed, such as a bear, and in every part of the animal's body and paws is an eye. The main difference is that there is a single eye in the Maya codices, while in the carved columns there are many eyes. The figures of animals are given in the codices, but in a great variety of attitudes; some of them most unnatural. These seem to be symbols, either of the nature powers or the constellations or the divinities. Dr. Brinton recognizes the dog, the spotted leopard, the jaguar, the deer, the armadillo, such birds as the macaw, the horned owl, the vulture, the parrot or quetzal, the crested falcon, the pelican, the wild turkey, and the black bird. The vulture is seated on the Tree of Life. In the Dresden Codex, the horned owl appears associated with the god of death and war, and symbolizes darkness. The falcon is associated with the Pleiades, the clouds and rain. The symbol of the earth has been identified in a glyph by Dr. Brinton.

Two falling figures in the Dresden Codex represent the years—the dark one represents the closing year of one cycle;

* In Manuscript Troano Plate VIII.

† Brinton's "Primer of Hieroglyphics."

the white one, the opening year of the following cycle. Cinerary urns are given as symbolic representations that the year had closed. These remind us of the custom among the Northern Indians to gather up the bones of the dead and preserve them in baskets. The cross-bones on the cinerary urns have evidently a significance. Some have thought that the calendars are primarily and essentially records of the motions of the heavenly bodies, and the figures and pictographs are to be interpreted as relating to constellations and planets, and that they indicate a knowledge of astrology; the dates for fixing rites and ceremonies, mythical narratives, cosmogonical tradition and liturgies, incantations and prescriptions for religious functions. Through this maze of superstition we can thread our way, if we hold on to the clew which astrology can furnish us.

(8) The zodiacal and planetary signs used by astronomers of the East, were not known to the aborigines in America, though there are certain rudimentary principles which were common everywhere. On the celebrated zodiac of Dendera, the date of which is believed to be about 700 B. C., the signs of the zodiac are exhibited in a primitive form which leaves no doubt as to their signification. In this we see one symbol which represents the horns of a ram, in another we recognize the hands and head of Sagittarius, in another we have the arrow and part of the bow of Sagittarius. These were domestic animals, and were introduced after the time of the domestication of animals. There are wild animals represented upon them—the crocodile, the behemoth, and other creatures. In the ordinary calendars, or geography of the heavens, we find the signs of civilization, not only the domestic animals, but musical instruments, such as the lyre, and the harp, also the sickle. At the same time, at the north, around the pole, we find the figures of the great serpent and bear. The mingling of the reptiles with animals—wild and domestic, and furniture, all suggesting the idea that these symbols were of slow growth, and that they were really the symbols which indicate the progress of history.

The Peruvians did not extend their division over the whole sphere, they recognized only a few of the more brilliant constellations, like the Pleiades and the southern cross and the standard and the jaguar. The Incas called the milky way, the "dust of stars," and gave to it different parts. What is now called the coal sack, was figured by them as a doe suckling a fawn, which reminds us of the Greek legend of Hercules and his nurse.* The only planet which the Incas had discovered was Venus. They said that Venus being the most brilliant of the stars, the sun would not permit it to be separated from him, and obliged it to attend his rising as well as his going down, just as a king does his favorite.

The mythology of the Babylonians was symbolized in the

* See Popular Science Monthly.

constellations of the sky. It may be that we shall find a mythology in America in the codices, which will carry us back to the earlier period when the founders of the empires and the first Culture Heroes were living. The signs of the zodiac are however peculiar to the lands of the East, and there are no such constellations which were introduced, except those which are mentioned.

Dr. Brinton holds that the constellations were known: the stars in Orion were known as the suns, *Mehen Ek*, doubtless referring to some astronomical myth. The terms for a comet were "a smoking star"; the milky way was called the "star dust"; the *Tza Ex*, shooting stars, were called "magicians pipes"; *Chairal Isutan*, the sun, when eclipsed, was the "sun bitten." Venus was the principal star or planet, and named special names—the great star, the strong star, the brilliant star, the companion of the dawn, the bee or wasp star, the guardian of the sky. The North star was called the shield star, or, the star on a shield. Dr. Schellhus holds that the Pole star is the god of the ornamented face, and is recognized by the ring of rays by which it is surrounded in the Cortesian Codex, also by its appearance in the constellation. In the codex Peresianus, the North star is seated on the Tree of Life. It is associated with a symbol of peace and plenty, and the pictograph where the beneficent gods are drawing store from the vases. The pleiades were also recognized by the Mayas, as well as by all other tribes in America.

Dr. Forstemann thinks that the snail symbolizes the winter solstice, and the tortoise the summer solstice. The frog is a well known symbol of water and rain; it is seen falling from the sky in the Cortesian Codex. The rattlesnake is the most common; it is seen astronomically in the sky among the stars, and probably refers to the clouds. The great snakes which stretch across the pages of the codices, mean time. Now, in all these figures, we find close analogies to the pictographs of the Northern tribes, though the presence of animal figures along with human figures and the symbols of the cardinal points, of the days, of the weeks and months, and the hieroglyphics, are features which are not found in the pictographs, but are in the codices. The connecting link between the pictographs and codices may, however, be found in the sand-paintings of the Navajos, and in the dances and sacred dramas of the Zunis and other Pueblo tribes.

THE ABSTRUSE SIGNIFICANCE OF THE NUMBERS THIRTY-SIX AND TWELVE.

BY H. L. STODDARD.

Much has been written about the mystery of prehistoric man in Europe and Asia, as well as on the Western Hemisphere. Having recently compiled some data which has a bearing upon the Discoidal Stone and Statues, uncovered near Menard's Mound, Arkansas, this article is intended as a summary on that subject. It should be stated, to begin with, that a complete demonstration of the subject is not possible in so elementary a form as that here proposed.

This find was made in the spring of 1901, by W. M. Almond while plowing on his farm, a short distance from Menard's Mound, which is located about eight miles from Arkansas Post (early Spanish settlement). The discoidal was covered with a bell-shaped stone, which fitted into the groove on the outer edge of the discoidal. Unfortunately, the plow share broke the stone into fragments, and Mr. Almond did not consider it of sufficient importance to preserve them. However, I am informed that he subsequently recovered some of the pieces, which may aid in restoring the bell to its natural condition. I have the affidavit of W. M. Almond and also his brother-in-law, C. M. Farmer, of the firm of W. M. Carpenter & Company, Stuttgart, Arkansas. After remaining on exhibition in the county clerk's office DeWitt, Arkansas, county seat of Arkansas County, Judge John Allen, I am informed, forwarded same to the Agricultural Department at Little Rock (State capital), where they remained on exhibition several weeks; after which they were returned to Mr. Almond, who subsequently received an offer from the Smithsonian Institution, and they were boxed ready for shipment to that institution when I purchased the same. The foregoing facts can readily be substantiated by affidavits of at least one hundred people. The Smithsonian Institution had a part of Menard's Mound excavated and secured a number of specimens, which were exhibited at the World's Fair, Chicago.

The discoidal is wrought out of jasper beautifully engraved, showing symmetry and perfection of design. The face of the discoidal is in bas relief, and the outer edge contains 36 semi-circles, comprising one complete circle, with geometrical precision. On the under side of the discoidal is a Phallic symbol, showing the "Yo-ni" conventionalized. The weight of the discoidal is $14\frac{1}{2}$ pounds. The statue of the man is wrought of jasper, the same as the discoidal, and is in the attitude of prayer. It has a Mongolian cast of features, and has the queue

clearly defined. The statue of the woman is wrought of marble and is in a sitting posture, with the emblem of the matrix literally portrayed; an Egyptian style of head-dress is indicated. The statue is eroded on account of air percolating underneath the bell-shaped cover, and is entirely covered with crystals or silicates. The statue of the man was kneeling in front of the woman, and they were found upon the discoidal covered by the campulated stone. The statue of the man, as well as the discoidal, shows well-defined patina.

Referring to the article, "America the Cradle of Asia," by Stewart Culin (*Harper's Magazine*, March, 1903) I find that the "Game of Patolli," as played by the Aztecs, has 36 princi-



THE DISCOIDAL STONE— $\frac{1}{4}$ SIZE.

ples, counting from north to south, or east to west, and differ from the "Game of Pachisi," as played by the Hindus in the fact that each of the four quarters of the globe, as represented by Pachisi, has 36 principles. As Prof. Culin aptly states: "The games suggest a common origin, and are not only alike in externals but in their morphology as well," and it may be added, they extend over in Asia from America as expression of the same underlying culture, they belong to the same culture.

The discoidal upon which the two idols rested has 36 principles of half circles composing one full circle. Half circles symbolize the moon with the ancients of China and Anam, as well as Chaldea and Egypt. The emblem upon the underside

of the discoidal strongly indicates a metamorphosis of the Tah-Gook. The half circles, or moon symbols, engraved upon the discoidal evidently had some special significance in the mythology, religion, or customs of the ancients. They may have marked the period of time (as a sun dial), or the number of sacred observances. The Tah-Gook of China, Korea, and Anan have 36 principles, and altars found at Copan, Central America, have 36 hieroglyphics engraved upon the top of the altar enclosed in a cartouche. That there is a distinctive analogy between the foregoing games and symbols, no one will dispute; that they were of common origin, I will draw the veil of modesty and allow others to deduct their own conclusions.



BACK OF DISCOIDAL STONE— $\frac{1}{4}$ SIZE.

The abstruse significance of the number 36 may be synthesized as follows:

The Carved Haidah Sticks have four suits of nine each, a total of	36
Korean Playing Cards	36
Chinese " (money cards) "	36
Patolla, counting from E. to W., or N. to S. have Castles, "	36
Pachisi, " E. to W., or N. to S. "	36
(On each section of Diagram.)*	

Altar stones of C. A. at Copan, have 36 principles enclosed in a cartouche.† The Chinese Monad and the Korean

* "America the Cradle of Asia," by Stewart Culin, Harper's Magazine, March, 1903.

† See plaster casts in Field Columbian Museum.

Tah-Gook, national emblems of Korea, each have eight diagrams, comprising 36 principles.* Fuh-Hi's Philosophy is indicated by eight diagrams of 36 principles. Within the city limits of Hang Chow, China, are eight large and very ancient stones, on which are engraved the "eight diagrams" that usually accompany the Chinese emblem.†

Dr. Forster H. Jennings, late of the Korean legation at Washington, says of the Tah-Gook, after a careful investigation of Korean Classical Works: "It is found on graves dating back thousands of years before Christ, and in every kind of climate, from the rattan groves of Anam, to the icy shores of Yezo in the north of Japan." Ancient Egypt had Nomes to the number of thirty-six, and the Discoidal Stone, found with the images, and which they were resting upon, has semi-circles to the number of thirty-six.

The primary conception of the numbers 36 and 12 by the Babylonians may be exemplified as follows: In the zodiac the sun had twelve houses, his proper home was in the sign of Leo. So likewise the planets pass through twelve stages in their journey, each sign or "house," through which an orb passed, became a seat of divine power, and the planets themselves were gods. With these, thirty of the fixed stars were associated as "counselling gods"; while twelve others in the Northern sky, and twelve in the South were called "the judges. As many of these were above the horizon, decided the fortunes of the living, while those below, the limit of night decided the fate of the dead.‡ Here we have twelve, *i. e.*, the twelve signs of the zodiac through which the planets (six, including the earth) passed. We also have the thirty "counselor gods" of the six planets, which added together equals 36; following which we have the twelve judges in the north, and twelve in the south, which equals 24; adding the two together, the correlation would be 360°, which the twelve signs of the zodiac was divided into; 24 Parassangs or 720 Stadia. The gods (planets) numbering six, and "counselor gods" numbering thirty, equals 36, to which if added the twenty-four judges, we have 60 equal to the Soss, which squared (60 x 60) equals 3,600 years, the Babylonian Sar. The corollary would apparently indicate the origin of 36, as well as the horography and horometry of the Chaldeans.

That the engraved discoidal was ever used as a sun dial or measure of time is problematical, that it could have been used as such, accurately, is a self evident fact. That there is a distinctive analogy between the discoidal, Babylonian time, latitude and longitude, and the Maya calendar, is certainly possible. It is a pretty problem, and much thought may be given to the elucidation of the ratio, analogy, and homogeneous

* Dr. W. A. P. Martin in "The Chinese"; also Dr. Legge, "The English Sinologue."

† Rev. W. S. Holt, D. D., Portland, Oregon.

‡ Chaldean Religion.

details. The philosophical elaborations and coincidental connections may be synopsisitised as follows: It is possible that America was peopled by ancients whose civilization was prior to the cataclysm, and whose culture, art and religion under a centralized government antedated a time when the first stone of Jerusalem had not been laid, and even ancient Babylon had not been conceived. The substantiative evidence strongly indicates that the American Continent was peopled by a branch of the great Turanian family (statue of man has pigtail clearly defined), that they were far advanced in the philosophy of religion, in that they personified their gods and goddesses, having tutelar deities. The statue of the woman is a strong indication of "Phallic worship," and when taken in connection with the symbol of the "Yoni conventionalized," which is engraved underneath the discoidal, almost precludes any doubt of Sacerdotalism of a Phallic nature. The statues indicate that the religion of Phallicism practiced by the Assyrians, Phœnicians, Egyptians and Hindus, had its devotees also in America. The same belief existed in Central America. The Mayas having their goddess of regeneration. The analogies are found in the gods and goddesses, as follows: Egypt, Osiris and Isis; Chaldæa, Asshur and Istar, and also Bel and Beltis (given in Herodotus as Melitta, meaning "The Lady"), an equivalent to Nana or Astarte of the Phœnicians. The same belief is manifested and is to-day practiced in the temples of India, where the Phallic symbols literally carved, are bowed before by reverential devotees, without a thought prurient or unclean.

Again quoting Stewart Culin in his article, "America the Cradle of America": "The Asiatic forms, of which there are many, are all existing along lines representing a development from than towards America. If the relation be that of parent and child, the parent it would seem is here." Considering the recent discovery of Cave Men relics in the Ozark Mountains of Arkansas, the accompanying evidence and the admitted culture of the people whose hands wrought the geometrical designs upon a Discoidal Stone and symmetrical outlines of the images, the corollary of the sum total as indicated, places America, or the Western Continent, as proto-Asiatic in culture and symbolism, at least to some degree.

I wish to go on record as absolutely opposed to the theory of the images, or their prototypes, ever having been used or intended for common pipes.

In explanation of the diagram, it should be stated that the time indicated by the Gnomon on the dial would not be correct as indicated by our clocks; *i. e.*, should the shadow of the Gnomon indicate 12 on the dial, it would not be 12 o'clock, but 8 o'clock, as the dial is geometrically divided into 36 periods of time, instead of 12, as our clocks are, hence each half circle represents a flight of sun-time of ten degrees, two-thirds of

THE ABSTI

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sun's disc equals tw
was found that the
scribed its own orbi
or 24 meridians. A
or one parasang, or
30 stadia equals one
equals 24 hours, 24
the sun's disc, or 36
equal to 360 degree
minutes, or 90 deg
degress; 20 minute
equals one degree.

After acquiring
the Babylonians may



MALE A

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feet, or one parasang linear measure, three miles and 58.100th, the distance an active foot courier could walk within the time the sun described its own disc thirty times.

A Babylonian cycle contained sixty years, and was called a Soss, which they squared ($60 \times 60 = 3,600$) and called a Sar. It is significant to note the analogy between the Babylonian soss, a cycle of sixty years, and the cycle of Cathay, also of sixty years (Chinese cycle). The Babylonian sar, which was the square of 60, equals 3,600 years, and applying the same method to the cycle of Cathay— 60×60 —we have 3,600 years. A reasonable construction to place upon the significance of the "36 principles" of the great Chinese Monad, Central American altars, or Japanese Tah-Gook, would be that each principle represents 100 years, or possibly 10^2 of the 30^2 which each sign of the zodiac was divided into by the Babylonians; the sexigesimal system of time being used by both the Chinese and Babylonians, and the Hindoos and Central Americans having the same divisions of time, their calendars having the same divisions, *i. e.*, eighteen months of twenty days each, one secular year; and thirteen months of twenty days each, a sacred year. The conclusions may be strengthened, when we consider the knowledge of the fact that the Babylonians and Chinese, as well as the Hindoos and Egyptians, all had and still have, the same signs of the zodiac. The great Monad possibly signifies the square of the cycle ($60 \times 60 = 3,600$ years), and equal to the sar of the Babylonians. The duodecimal and sexigesimal systems of notation made themselves manifest in the minds of the ancients of Asia in a multifarious and multifidous manner, and were salient features in the chronicles of our Asiatic progenitors. Having enumerated 36, we will now pass to the "abstruse significance" of the number 12.

Yoga, the Sankhya philosophy of the Hindoos, has eight stages and eight great powers; one of the powers being acquired by muttering the syllable Om 144,000 times. The seal being placed upon the forehead of 12,000 of each of the Twelve Tribes of Israel, in four groups of 36,000 each *. There were twelve tribes of Israel and twelve wells of Elim.† Twelve pillars and altars, according to the twelve tribes of Israel, under Mount Sinai.‡ The Ephod (Sacerdotal habit) having two stones in front, on which were engraved the names of the Twelve Tribes of Israel § The City of Heaven, as revealed by John, lieth four square, and the length is as large as the breadth, and he measured the city with the reed 12,000 furlongs (1,500 miles, English measure); he measured the walls thereof an hundred and forty and four (144) cubits (252 feet English measure). According to the measure of the man, that is, of the Angel.¶ And the walls of the city had twelve foundations,

* Revelation vii:4.

† Exodus xv:27.

‡ Exodus xxiv:4.

§ Exodus xxviii:2.

¶ Revelation xxi:16-17.

and in them the names of the Twelve Apostles of the Lamb. And the walls were great and high and had twelve gates, and at the gate twelve angels, and names written thereon, which are the names of the Twelve Tribes of Israel. And the foundations of the walls of the city were garnished with all manner of precious stones. The first foundation was jasper; the second, sapphire; the third, chalcedony; the fourth, emerald; the fifth, sardonyx; the sixth, sardius; the seventh, chrysolite; the eighth, beryl; the ninth, topaz; the tenth, chrysoprasus; the eleventh, jacinth, and the twelfth, amethyst; and the twelve gates were twelve pearls, every several gate was one pearl; and the streets of the city were pure gold, as it were transparent glass.* Ephiphany the twelfth day after Christmas and birth of Christ.† There were twelve miracles wrought in Egypt: Aaron's rod turned into a serpent, bringing on the ten plagues of Egypt, and parting the Red Sea during the Exodus, total twelve miracles. Christ had twelve apostles and appeared twelve times after His resurrection, The covering of the King of Tyre contained twelve stones.‡ The breast-plate of the High Priest contained twelve stones as ornaments.§ Twelve spies were sent to the land of Caanan.|| Twelve curses were pronounced on Mt. Ebal.¶ The Chaldeans were known in the Bible as astronomers: "Let now the Astrologers, the Stargazers, the Monthly Prognosticators, stand up and save thee from these things that shall come upon thee.** A significant miracle was the return of the shadow on the sun-dial of Ahaz. Isaiah returned the shadow on the sun-dial 10°, as a sign that Hezekiah should be healed and his life extended fifteen years.†† Ancient Attica had twelve townships. The twelve Etruscan and the twelve Latin towns of Pelasgi correspond with the twelve townships into which Attica was divided, as well as the twelve Ionian, twelve Eolic, and twelve Doric cities of Asia Minor. Rome had twelve Tables of Laws, and the Assyrians twelve major gods.

The writer does not wish to cover the matter here presented with a panoply or bulwark of defense, but wishes to offer the homogeneous earmarks for what they are worth. In brief, the foregoing may be commented upon as follows: Why was the first stone of the City of Heaven, as revealed by John's Revelations, jasper, unless for its compactness, strength, and durability, as used by the Babylonians, and being less susceptible to chemical action or erosion? Why does the figure 12 present itself so frequently and conspicuously in the history of man, unless the origin was the twelve moons, the basis of the Chaldean astronomy and system of measuring time, and perpetuated to the present day in the Ptolemaic System? Granting that the Chaldeans looked with favor upon jasper, as one

* Revelation xxi:12; xiv:19; xx:21.

† II. Timothy i:10.

‡ Ezekiah xxviii:13.

§ Exodus xxi:17.

|| Deuteronomy i:23.

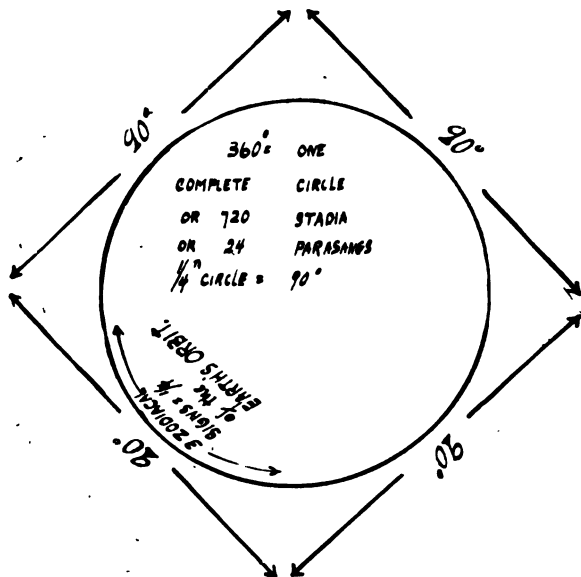
¶ Deuteronomy xviii:15 and 26.

** Isaiah xlviii:13.

†† II. Kings xxi:10-11.

of the twelve precious stones, why is it not reasonable to assume that the Ahaz sun-dial was wrought of jasper, and as it was marked off in periods of the same length of time (*i.e.* 10°) as the jasper sun-dial of America, why is there not some connection? if not, why not?

It is interesting to note the apparent connection between the Discoidal Stone and the Babylonian measure of time, the Maya calendar, and latitude and longitude. The Maya calendar has twenty days in a secular month, and eighteen months in a year (360 days). The Babylonian measure of time, consisting of twenty-four parassangs and 720 stadia, has never been changed or improved upon, even escaping during the



$90^\circ = 6$ hours; 6 hours = 360 minutes; $15^\circ = 1$ hour; $5^\circ = 20$ minutes 4 minutes = 1 degree.

Each half circle = 180° ; 36 half circles comprising one complete circle of 360° ; hence, each half circle = 40 minutes.

Maya Calendar, 20 days = 1 month, 18 months = 1 year or 360 days.

DIAGRAM OF DISCODIAL.

French Revolution when the metric system was put into vogue. Why they were allowed to continue, is a question unanswered. The diagrams indicate the comparative ratios.

While the writer is adverse to using the pronoun I, he feels it incumbent upon him to designate the Discoidal Stone, and until a better name is offered, will call it the "Ahaz Sun-Dial," as the analogy is so distinctive in its concrete form as to almost preclude any doubt but that the two have a common origin; a more comprehensive study of the subject strengthens this assumption.

The Ring of Brogar, composed of sixty stones, would indicate the Babylonian measure of time, the number of stones being equal to the Babylonian soss (sixty years), also equal to the six gods (planets) and thirty "counselor gods" which equals thirty-six, and twenty-four judges, which added together equals sixty. The correlation would be the Babylonian measure of time, as well as the horography and horometry of the Chaldeans. The analogy of Avebury Circle and Stonehenge, as

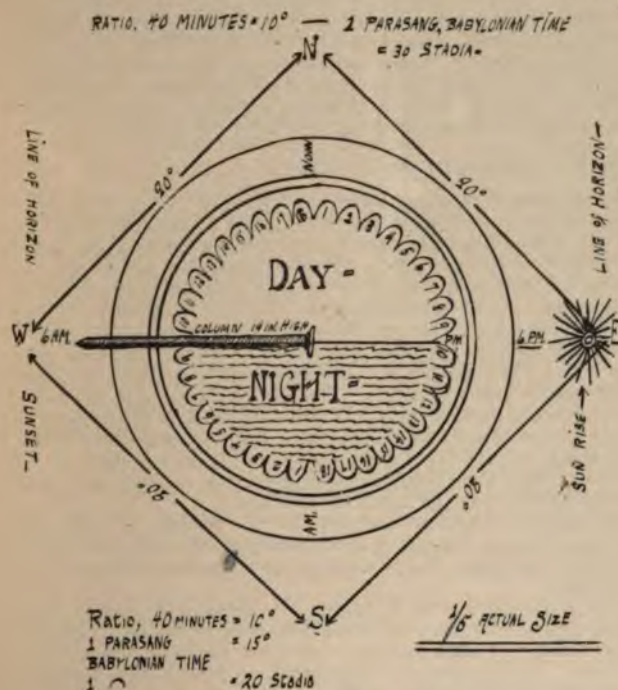


DIAGRAM OF DISCOIDAL.

well as the circles found all over the globe is clearly indicated. Rev. Stephen D. Peet, Ph. D., says:

The circle was also a symbol in Scandinavia. The tree shot up its branches towards the sky; around the tree, midway between the branches and the root, was a serpent, which formed a circle, with its tail in its mouth. This represents the sea which surrounds the land. Outside the serpent was a range of mountains, which formed the border of the horizon. There were three roots to the tree. Now, this Tree of Life was the cosmic symbol of the Scandinavians. It was evidently borrowed from the Hindoos, but modified.

The symbols of the circle are scattered all over the globe, and are always very similar. At Stonehenge, it consisted of a double circle of standing stones, which symbolized the earth with its horizon, exactly as the double circle did around Igdrasil, the Tree of Life. There were double circles formed by standing stones at Gezer in Palestine; various localities of North

Africa; in India, and in South America. In South America they served as sun-dials. In Great Britain they served as temples to the sun. In North Africa, as places of sacrifice. It is very singular that these cosmic symbols should be so wide-spread, and should be so similar in their character, and especially in their significance. The idea that life was perpetuated by the union of the male and female was, of course, a common one and universal, but that it should be connected so closely with religion and embodied in the temples, is to us astonishing.

The Tree of Life is very common in America, and in many respects resembles the one described in the Scriptures. This is illustrated, not only by the so-called rude architectural works, such as earth and stone circles, platforms and sun-dials, but by various relics which have been discovered here and there, in America, as well as in India. These relics have been studied by those who have a penchant that way, and compared to the symbols which are prevalent in China, India, and elsewhere. It certainly seems at times that the phallic symbols were thoroughly distributed on this continent, and that they had the same significance as in India.*

We quote further from Dr. Peet:

The most interesting object found at Pisac, is the enclosure in which is the rock which served as a sun-dial, called "Inti-Huatana," the place where the sun is tied up. The entrance to the enclosure is through a doorway, by a flight of stone steps. Another stone, similar to that at Pisac, overlooks the fortress in the ancient town of Ollantaytambo; another near Cuzco, within the circular part of the great Temple itself, also on the Sacred Island of Titicaca is another, made out of limestone rock. The sacred character of the edifices surrounding these, is acknowledged. They were devices by which the solstices and equinoxes were marked, and the length of the solar year was determined. Garcilasso de la Vega says there were sixteen of these pillars at Cuzco. It was the duty of the priests to watch the shadows of the columns which were in the center of the circle. When the rays of the sun fell full on the column, and it was bathed in light, the priests declared that the equinox had arrived, and proceeded to place on it flowers and offerings and the Chair of the Sun.

Acosta says that at Cuzco there are "twelve pillars." Every month, one of the pillars denoted the rising and setting of the sun, and by means of them they fixed the feasts and the seasons for sowing and reaping, and for offering sacrifices.

The Circle of the Sun at Sillustani has already been described. This consisted of a pavement in a circle, surrounding an enclosure in which were two pillars, which were in a line so as to catch the rays of the sun and cast their shadows. This resembles the circle at Stonehenge, and shows that that sun worship was attended by the same symbols everywhere. Mr. F. G. Squier says of the gnomon at Inti-Huatana that it is the best preserved of any.†

The cumulative evidence bespeaks an analogy between the circles found all over the globe. The corollary would be, that they not only symbolized sacerdotalism of the sun and phallicism, but, in many instances, have to do with the horography, horometry, astronomy, which had its birth upon the plains of Chaldæa. The synthetic hypothesis of the concomitant analogies indicate that there was an exchange of culture between Asia and America, and that the discoidal and images are an example of Asiatic culture.

*The American Antiquarian, Vol. XXV., January-February, 1904.

†The American Antiquarian, Vol. XXV., May and June, 1903.

USE AND DOMESTICATION OF THE HORSE.

BY ALEXANDER F. CHAMBERLAIN.

In recent anthropological and archæological literature there have appeared several very interesting discussions of the antiquity of the use by man of the horse, its domestication, etc.

In a paper read before the French Association for the Advancement of Science, at the Angers meeting, in August, 1903, Zaborowski discussed the question whether the horse had been domesticated in quaternary times (*R. de l'Ecole d'Anthrop. de Paris*, XIII., 357-358); Prof. Ridgeway has treated of "The Origin of the Thorough-Bred Horse" (*Proc. Cambr. Philos. Soc.*, 1903, pp. 141-143); and von Negelein has published a monograph on "Das Pferd im arischen Altertum" (Königsberg, 1903), besides an article on "Die Stellung des Pferdes in der Kulturgeschichte" (*Globus*, LXXXIV., 345-349). Here belongs also R. Munro's article, "On the Prehistoric Horses of Europe and their Supposed Domestication in Palæontologic Times" (*Arch. Journ.*, LIX., 1902, pp. 109-143).

The question of the domestication of the horse in the quaternary epoch was raised when the investigations at the "station" of Solutré revealed the presence of the bones of more than 100,000 individuals of the horse kind, and the pictures of horses in the caves and grottos since discovered have furnished other data for consideration. At first, the general opinion was that at this period the horse could have been only a beast of the chase for primitive man and a food-animal. Capitan, who, with Breuil, studied the animal pictographs of the grotto of Combarelles, which include some forty figures of horses (*C.-R. Acad. d. Sci.*, 1901, and *R. de l'Ec. d'Anthrop. de Paris*, 1902), holds that several of the horses there depicted "show clear signs of domestication." Among these are what seems to be a sort of covering on the back of one; a "halter" about the neck of another; a diamond-shaped mark (brand?) on the flank of a third, etc. This idea of the domestication of the horse in quaternary times is combatted by Hoernes in his book, "Der diluviale Mensch in Europa" (Braunschweig, 1903). Hoernes believes that primitive man of the period in question hunted and captured horses (by bolas or lasso), much as do even to-day the Argentinian Indians the half-wild horses of their great plains, and kept them tethered about their "camp" till they were slaughtered for the purpose of food. This would account for the existence of a "halter," and perhaps, also, of a "brand," or sacrificial sign, or "property-mark." Zaborowski declines to believe in the quaternary domestication of the horse; so, too, von Negelein.

Zaborowski alleges the extreme rarity of the remains of the horse in the Lake-Dwellings, particularly in those of Upper Austria. This fact he interprets to mean that, as man came

more and more to depend not on the chase, but on agriculture and his flocks for a living, the horse (up to that time used only for food) ceased to serve him to any great extent even for food,—had the animal been domesticated in the quaternary period, this scarcity in times subsequent would hardly have occurred. In neolithic times, then, the horse was an animal slaughtered for food, or offered up in religious sacrifice, as was the case with the primitive Greeks, the ancient Teutons (up to the introduction of Christianity); the Finns, etc.

The fondness for horse-flesh in certain regions of Europe to-day may have neolithic and palæolithic ancestry. As von Negelein notes, in the middle of the sixteenth century wild horses are said to have existed in the park of Duke Albrecht and their flesh was much used by the Prussians for food. In the time of the Orders horses were still beasts of the chase. With the Bronze Age the appearance of the animal (with a bit in his mouth) in an undoubted state of domestication is numerous demonstrated; he was now tamed for saddle purposes and as a beast of draught. The names of the horse in the various Aryan languages indicate that the animal was familiar to almost all the peoples of proto-Aryan stock. Moreover the ancient Aryans offered up the horse in holocaust as a sacrifice to their gods. The use of the horse in war was known to some of the Mediterranean peoples from very early times, but with the Greeks (not the Thracians) such employment is general dates only from the period of the conflicts with the Medes and Persians, in whose Asiatic home the horse had long been known and so used.

Ridgeway expresses the opinion that "not only, as has been long observed, did the Homeric Greek drive the horse before they rode him, but the same is true of all ancient peoples,—Egyptians, Canaanites, Assyrians, Aryans of Rig-Veda, Umbrians, and Celts." Indeed, Herodotus says of the Trans-Danubian Sigynnæ that they employed chariots because the small horses, while unable to bear the weight of a man, were excellent with chariots. The horse of the Sigynnæ, according to Prof. Ridgeway, "tallies exactly with the abundant remains of the primitive horse of Europe, eaten in great quantities and delineated on antlers by the men of the Stone Age." From this primitive horse "have been developed the cart-horses of the Continent and these islands, whilst our blood-horses have come from an Eastern stock of slight build and smart appearance." The Mongolian pony (representing the Scythian horse, derived either from the tarpan or Przevalsky's horse. After pointing out that no indigenous horse corresponding to the blood horse exists in China, or Farther India, and that India itself (incapable, as Marco Polo said, of breeding horses) was supplied with Mongolian ponies from Yunnan, or with Arabians from South Persia; Aden and other Arabian ports," styles the commonly received opinion that the original home of the blood

horse was in Arabia, "a baseless assumption." Camels and she-asses the ancient Arabs knew well, but not blood-horses. Job mentions the war-horse, but had 500 she-asses and not a single horse; and to the hosts of Xerxes, as Herodotus, records, the Arabs furnished everything but plenty of horses.

Africa, rather than Arabia, is the original home of "the Arab steed," who turns out to be "a Barbary horse." It was in the hunt and in war that the horse (practically the male) appears first numerous in the beginnings of national culture in Asia Minor and in Mediterranean Europe. To-day it is not considered *chic* in Morocco to ride a mare. In Aryan folk-lore, the "white horse" and the "black horse" have played interesting rôles, as von Negelein has pointed out,—there is also the "horse of the sun," etc. The story of the horse in human culture has yet, however, to be written. A few chapters only have yet been composed.

THE DROOZ OF SYRIA.

BY GHOM-EL-HOWIE, PH. D., SHWEIR, SYRIA.

On page 210 of *THE AMERICAN ANTIQUARIAN* for May-June, there is a statement regarding the Tlingit (Thlinket), which leads me to give a few particulars about the Drooz of Syria, usually, but unusually called "Druses," for there appear to be a striking resemblance, if not identity, among some of their doctrines.

The Drooz existed in Syria, as an organized religious community, for more than nine centuries. If in general they be illiterate, they are undoubtedly highly intellectual and physically strong. One of the seven governors of the province of Lebanon is, and must always be, one of their number. Some of the wealthiest and most ancient aristocracy of Syria are members of the Drooz sect. Some towns and villages they occupy exclusively, but some others they share with Maronites, Greeks, Moslems, and Jews; but in all cases, as a religious community they isolate themselves with punctilious rigidity. They may be willing to hear what we have to tell them about our religion, but about theirs they will tell nothing, and they do not hesitate to describe as false all reports which have been published touching their religious tenets; nevertheless, since 1860, it became possible for the curious to learn something of the Drooz religion.

They hold that the population of the world is a "constant quantity," neither increases nor decreases. "In the beginning" (whenver that was) human beings were lying about lifeless, like "inflated skin bottles." Allah then breathed into them life, and they lived, had being and began to move, and ever since, for every death there has been

a corresponding birth, and hence transmigration of soul from the dying to those that are about to be born; and hence they resemble the Thlinket, who hold "that souls of ancestors are reborn in children, that a man will be reborn as a man, a wolf as a wolf, a raven as a raven."

My late grandmother affirmed, innocently however, that a Drooz widow with whom she lived, spread a sheep skin inside the room for a dog the family had, and otherwise strove to make the dog comfortable, for, peradventure "the soul of the deceased husband might have gone into it." If my grandparent's information is correct, which it doubtless is, then the Drooz widow in question must have been off her guard, when she permitted such an idea and expression escape her lips and be confirmed by her conduct towards the dog, night after night. The Drooz religious authorities would find in such a case, if ever they became cognizant of it, a breach of faith for which no punishment would be too severe.

From the doctrine of transmigration of souls, it is plain to the Drooz mind that all men, whoever lived or live, were present during the age when their religion was proclaimed and, consequently, all heard the invitation to embrace it; those who did embrace it, are ever reborn Drooz, and those who rejected it, are ever reborn non-Drooz. This seems to conflict with the idea of the Thlinket that a man will be reborn as a man, and wolf as a wolf, and with their own idea, which permits of human souls reappearing in dogs, etc. Nevertheless, before the end of all things, conflict will cease and individuals will finally appear in individuals of their own species, just as the Thlinket believe.

And if it now happens that a man is born in a mouse, or in a piece of iron, which a blacksmith must needs heat and hammer, it is only a punishment or giving the individual an opportunity of expiating his or her sins.

The fact that it is impossible for the Drooz to proseylize is based on two assumptions: First, that the author of their religion set a time limit for repentance and acceptance; and second, that the people of any age were present during the age of grace. This last assumption flows from the doctrine of transmigration.

One of the chief founders and contributors to the literary basis of the Drooz religion was Ali-el-Derzy, a native of Persia. He began his labors in Egypt, and this fact may serve as a clue to an inquiry as to whether the doctrine of transmigration among the Tlingit was in any way derived from the Orient.

Modern education, notwithstanding the science of statistics, touching the population of the world, has made no appreciable outward difference upon the Drooz mind in relation to their belief.

THE STORY OF POMPEII.

BY FRANK I. WALKER.

Pompeii, though it offers many attractions to the curious traveller, is apt to be somewhat of a disappointment to those whose expectations have been keyed to a high pitch by romances and semi-historical stories picturing the awful catastrophe of 79 A. D. Readers of Bulwer Lytton's great romance, for instance, do not always realize that the magical charm with which the place is invested in the story, is but the charm of a fertile imagination and that the scenes and characters are not all historical. And so, as one wanders through those desolate streets, bordered by ruins where lizards are now the only tenants, he asks what has become of all the splendor with which he was wont to associate the place. The answer is that much of the splendor never existed, and what did exist has been removed at various times. Pompeii is the mere skeleton of a city destroyed by fire and buried under volcanic ashes over eighteen centuries ago, and possesses an interest, not so much for what one can see in its streets and buildings, as for what these reveal to us of the civilization that flourished there in the days of imperial Rome.

The city was founded in the sixth century B. C. by an Italic population, the Oscans, who came from Campania in search of abodes. One cannot but admire the good judgment these people displayed in selecting such a site, for there are few more beautiful spots in all the world. The neighboring hills, covered with vines and olives, the Sarno river watering the fertile region, and the glorious bay, always noted for its fine oysters, must have drawn thither these settlers with an irresistible charm, such as the locality has exerted on many a people since that day. At any rate, they divided the land—an elevation just west of the Sarno and sloping down to the Bay of Naples—among their chiefs, and soon a town sprang up. The rude dwellings were constructed of parallelopiped-shaped stones from the mountains near by, and must have been rather airy, as no mortar was used.

About 424 B. C., the Samnites, extending their boundary toward the border of Campania, conquered Pompeii and ruled there for three centuries. They had acquired the arts of Hellenic civilization, and soon transformed the sooty Oscan houses into beautiful dwellings, built in the Doric style. The streets were widened and paved, and the town was adorned with stately temples and other public buildings. Finally, Sulla brought the prosperous little city under the sway of Rome, and from then until the time of Augustus, the place assumed the proportions

which are visible in the ruins. During the latter part of the Republic and the first years of the Empire, the place was a famous resort for the fashion of Rome, and its environs were adorned with villas of various noted politicians. Cicero often speaks of his property (Pompeianum) there, and others, such as Pliny, Statius and Pomponius Mela mention it frequently. Strabo praises its situation, bathed by the Sarno, and no doubt the place would have become one of the most beautiful of ancient cities, had it not been wrecked by the earthquake of 63 A. D., and finally destroyed by the volcanic eruption of 79 A. D.

This eruption is regarded as the most appalling catastrophe of the kind in history. The volcano, which had been quiescent for centuries and was covered with a luxuriant growth of vines, began its awful warning by a preliminary earthquake in 63 A. D., which culminated in the terrible calamity of 79 A. D. For several weeks preceding the latter event, there were, perhaps, the usual signs of the approaching disaster—dry wells, a peculiar taste to the water, and restless animals—but the inhabitants of villages at the base of Vesuvius evidently did not heed these voices of doom, pursuing their daily round of life, with as little concern about all danger as animals ready for the slaughter. The result was, that when the fiery monster suddenly began his awful work, the inhabitants were seized with consternation and many, in their bewilderment or their attempt to save their valuables, were overwhelmed and left their skeletons to tell of their awful fate.

The elder Pliny, a great naturalist, who was on a fleet in the bay, went as far as Stabiae to watch the eruption and to rescue a friend, and lost his life. His nephew speaks of his death, and in a letter to a friend, Tacitus, describes the phenomena—the violent agitation of the sea; day turned suddenly into night; great black clouds above the volcano, riven continually by streaks of lightning, and people everywhere seized with terror, thinking that the end of the world was at hand. There was at first, a dense shower of ashes, which covered the town to a depth of three feet, and gave the majority of the inhabitants an opportunity to escape. Then came a deluge of red-hot pumice stones, followed by another shower of ashes, and again by another shower of rapilli or pumice stones: leaving the city, at the end of three days, buried to a depth of from twenty to thirty feet.

Out of the twenty thousand inhabitants, it is estimated that two thousand were lost. The comparatively large number of those that escaped is due to the fact that Pompeii is six miles south of Vesuvius. Herculaneum, one and one half miles north of the volcano, suffered even a more terrible fate, being buried under a solid mass of lava eighty feet thick, which to-day furnishes the foundation for the modern city of Resina. On account of the comparatively small number of articles of great

value found in the excavations, it is supposed that many of the inhabitants of Pompeii, after the destruction of their city, returned and dug their belongings from the ashes. Then the city was consigned to oblivion, and during the Middle Ages was as unknown as if it had never existed. Strange to say, an architect, Fontano, in 1592 constructed a conduit from the Sarno to Torre Annunziato, actually intersected the ruins, yet no investigations were made. In 1748, the discovery by a peasant of a number of bronze utensils and some statues, attracted the attention of Charles III., who ordered excavations to be made. Under these Bourbon rulers, statues and valuables alone were rescued, the ruins being left to decay, or covered up again.

To Murat the world is indebted for the excavation of the Forum, the Street of Tombs, and many private residences. The man who accomplished the most, however, was Fiorelli, who took charge of the work in 1860. After having made a minute study of the ancient city, he proceeded according to a systematic plan whereby the ruins are carefully explored and preserved. Most of the statues and valuable objects, as well as the brilliant frescoes, were removed to the museum at Naples, to preserve them from the ravages of sun and weather. By an ingenious process of pouring liquid plaster paris into the cavities left by decayed bodies, he succeeded in making casts of the victims, many of which show by their attitudes the awful violence of the death struggle. Fiorelli died in 1896, after having excavated one-third of the city. According to his calculations, it will require fifty years more to finish the work, and will cost five million francs, or one million dollars. At present there are eighty workmen employed, and the expenses of the excavation are paid out of the sum realized from gate receipts, which amounts to six or eight thousand dollars each year.

Tourists on their way to Pompeii, before proceeding to that place, usually visit the museum at Naples, where they are entertained for several hours by the most curious and interesting relics. Room after room is filled with household utensils, furniture, locks, jewelry, and various ornaments in endless variety. There are pies and cakes, baked eighteen centuries ago, which present the appearance of modern pastry left too long in the oven. Another attractive feature to persons interested in archæology, is the room containing the charred remains of papyrus manuscripts and wax tablets (codices), many of which can easily be deciphered by a student of Latin. An index to the depravity and abandon of the time is the room, open only to men, where are displayed obscene wall decorations and various household ornaments fashioned into lascivious shapes. All of the objects on exhibition are eloquent of the character and daily life of the inhabitants of that unfortunate city, and make a collection invaluable to the student of Roman history.

Pompeii lies sixteen miles in an easterly direction from

Naples, and is reached by a railroad that skirts the northern shore of the bay. To the left, as the train approaches the town, Vesuvius, rising in isolated grandeur, entertains the stranger with an occasional puff of smoke, as if to remind him of the awful power that made possible the object of his visit. At the entrance to the city, travellers are generally annoyed by numbers of guides (the Guide autorizzati private being conspicuous), and one does well to pay no attention to them, if he wishes to avoid trouble. Though guides are furnished (except on Thursday, when admission is free) English and American visitors usually experience great difficulty in finding one who can speak their language well. One may consider himself fortunate indeed, if he does not have to strain his ear and patience trying to understand a mixture of Italian, French and "pigeon" English.

Pompeii is in the form of an irregular ellipse, with the larger diameter running east and west. The walls, a great part of which have been demolished, have a circumference of 8,529 feet, or about one and three-fifth miles. The ruins are entered by the Porta Marina, one of the eight gates which stand at the termini of the four principal streets. Two of these main streets, the Cardo and another parallel one (not yet excavated) running north and south, and two others, the Decumanus major and the Decumanus minor, running east and west, divide the town into nine "regiones," which are indicated by Roman numerals. Each of these is subdivided into "insulæ" or blocks of houses, indicated by Arabic numerals. The number of the region and that of the insula being written at each corner, and the houses all being numbered, facilitates finding any special building. Thus, "Reg. Vd, Ins. 8, No. 5," means house number five in the eighth insula of the sixth region.

The streets of Pompeii are straight and very narrow, the widest being but twenty-four feet, and the alleys fourteen feet. They are admirably paved with polygonal blocks of lava, and bordered by pavements. At occasional intervals and especially at street corners, are large firmly-set stepping-stones, designed for use in rainy weather, when the water was sometimes several inches deep. On the principal thoroughfares are observed two parallel deeply-worn ruts, four and one-half feet apart, made by the hand-chariots used at the time.

One does not see advertisements painted on the walls of buildings, as in modern cities, but here and there, in conspicuous places, are notices in brilliant red letters, referring to the election of municipal officers, and recommending some individual for aedile or duumvir. Occasionally the smooth stuccoed surfaces are decorated with rough comic cartoons—evidently the work of street arabs, who seem to be as prevalent then as now. Occasionally a "phallus," designed to avert the evil eye, peeps from its position above the door, and large serpents, the emblems of the Lares, gods of the hearth and cross-

ings, are common. On some of the buildings, used for evil purposes, and strange to say, on most of the barber shops, are suggestive emblems, such as those seen in one of the rooms of the museum at Naples.

A noticeable difference between ancient and modern buildings, is the lack of windows in the former. There being no glass at that time, the buildings in this old city present to the street a monotonous surface, with few openings, and these are fitted with iron bars. All are constructed of concrete, brick, or brick-shaped stones, except the façades, corners and pillars, which are of large blocks of stone. The patched character of the work seen in many places, is probably due to the incorporation of new walls in old buildings. The stairways seen occasionally here and there, indicate the former existence of an upper story. These have almost invariably been destroyed, however, owing to the projection of this part above the superincumbent mass which protected the rest of the building.

It seems that the Pompeiians loved plenty of pure water, for at all of the principal street corners are large stone fountains decorated with a mask or the head of some god. On the edge of the basin of one of these are indications of the frequency with which the fountains were visited—two transverse grooves, worn by the hands of thirsty passers-by as they leaned over and drank from the spout!

There are many evidences that Pompeii was a mercantile city, and that it carried on a large retail business. All of the larger buildings are provided with "tabernæ," or shops, occupying the lower story next the street. These have no communication with the rest of the house, and are generally small, many being but twenty feet square (such as one sees in Venice). Some have an apartment at the back used for a sleeping room by the shop-keeper, or designed, in the case of restaurants, for dining-rooms. It seems that wine was an important article of trade, there being numerous counters fitted up for its sale; these occupy a conspicuous position next to the street, and consist of a solid masonry in which are imbedded earthenware vessels of various sizes, so that the liquor could be conveniently dipped out with a ladle and poured into the receptacle of the customer—whether that were a jar or a stomach. Bakeries are common and present interesting features. These is always an immense brick oven and machines for grinding grain. These latter consist of two heavy stones—one a conical piece, with a projecting base; the other hollow and somewhat the shape of an hour-glass, the lower part of which fits over the cone, while the upper part was used for the "hopper." The mill was operated by means of a pole passed through the middle of the revolving part and turned round and round by two men.

The residences at Pompeii vary in size and the nature of their appointments, according to the means and disposition of the owners. There is the atrium, or first inner court, of the

old Roman dwellings, entered by means of the ostium, and where the man of the house received his clients and transacted his business with the world. Farther back, passing through the tablinum, one finds himself in another inner court called the peristylum, which was devoted to the private life of the family. The surrounding pillars, which give the place its name, various statues and a flower-garden in the center, make this one of the pleasantest parts of the dwelling, and it no doubt was a favorite resort for parents and children. Sometimes there is yet another apartment, the Xystus, or flower garden, and also a portico at the back, but these are found only in the houses of the wealthier class. The atrium and peristylum are surrounded by cubicula, or sleeping-rooms, eating-rooms, the kitchen and cellar, all being noticeably small—a peculiarity arising from the fact that a Roman family spent most of their time in the open courts.

Hall decorations are characteristic of Pompeii, and arose partly from the manner in which the houses were constructed and partly from the erotic nature of the inhabitants. There was very little marble used, and as surfaces and even pillars were stuccoed, it was thought necessary to ornament them with frescoes. The pillars are usually painted with yellow or bright red, and the wall frescoes are in the same colors, harmonizing admirably with the brilliancy of the southern sun. These pictures, found everywhere, represent various gods and goddesses (Venuses and Cupids being the favorites) and are indicative of a passionate and pleasure-loving people. There are artists in Naples who gain a good livelihood by making copies of these pictures and selling them to tourists.

Pompeian houses have been named from their supposed owners, or from some statue or painting discovered during the excavations, and each has its peculiar interest. The House of the Tragic Poet, for instance (represented in Bulwer Lytton's novel as the dwelling of Glaucus), is so called from two representations found in the tablinum—a poet reading and a mosaic of a theatrical rehearsal. Then there is the House of the Faun, so named from the statuette of a dancing faun found in the atrium. In the case of the House of Marcus Lucretius, the name of the owner was learned from a letter painted on the wall, with the address, "M. Lucretio, Flam. Martis, decurionis Pompei." The House of Pansa, occupying a whole insula and one of the largest in Pompeii, has been reproduced at Saratoga New York.

One of the most luxurious dwellings in the city, is the House of the Vetii, which has been partly restored. The owners of this ancient palace, as one perceives by the electoral inscriptions, were candidates for the municipal magistracy and were evidently rich and powerful men—fond of magnificent apartments, good cooks and a well-stocked cellar of old Falernian such as was the delight of Horace. The aristocratic atrium

the spacious peristyle, the triclinium, the elegant exedra and the splendidly-decorated cubicula—all attest the wealth and opulence of the successful politician of the time. One no sooner steps within the massive portal, with its splendid decorations, than he is impressed with the peculiar magnificence of the old dwelling. He enters the atrium, that comfortable saloon where the man of affairs was wont to entertain his numerous distinguished visitors, and is charmed with the elegance that surrounds him on every side.

On the walls of the rooms opening into the atrium, are numerous decorations, one of which is witty and pleasing; it is a representation of small Cupids vying with each other in a race, the result of which is that several of them, during the pursuit, are thrown on the ground with their legs in the air. Other paintings portray Cupids wearing garlands, as well as numerous other figures, such as Psyches, nymphs and Tritons, while in many, well-known fables are the subjects, such as Hero and Leander, Hercules strangling the serpent, Pasaphæ in the workshop of Daedalus, constructing the famous cow, and a struggle between Pan and Love in the presence of Dionysius Ariadne.

One of the most pleasing parts of the house, is the great peristyle, with its statuettes, its numerous small basins and flower gardens. The open space is surrounded by a vast portico, supported by stately columns and covered with stucco. At each end of the eastern portico, is an exedra, or reception room, elegantly decorated with the ubiquitous frescoes; while under the northern portico is the triclinium, or dining-room, containing many fine bronze statues. If one could have stepped into this room before that flood of ashes buried all, he might have seen the family reclining upon the couches about the three sides of the table, while slaves served them through the open space left by the fourth side. Indeed it seems as if the family should still be here, for there are great bronze chests untouched, and in the kitchen the boiler still is sitting on a tripod near a grid-iron! As one wanders through these silent halls and invades the privacy of these once-cherished dwellings, he is grateful to Time, that long-bearded old gentleman, who has pointed them out to us by chance, and who permits us to visit them without asking permission of the owners.

There are many other buildings here that merit study, but which most strangers are obliged to pass with a mere glance. The large and small theatres, with their rude arrangements for scenic appurtenances, attract much attention. On the top galleries of the larger one, are rings for fastening the awning, or velarium, and near by is an artificial lake to supply water for sprinkling the spectators in warm weather. (What would our modern women theatre-goers say to having their bonnets sprinkled?) In the tickets used for these theatres, which are on exhibition at the Naples museum, is seen the origin of one

of our common slang expressions. The tickets were of ivory and other hard materials, and were fashioned into various shapes appropriate for the users,—musicians receiving violins; fishermen, fish, etc. Those who were admitted free, received death's heads, and so were called by the term which we use to-day.

The Forum, with its broken columns and decayed buildings, is a solemn reminder of the transient nature of human institutions, and the magnificent thermæ, with their rooms for hot, cold, tepid and sudatory baths,—all bare now of guests, save the darting lizard that finds a silent abode beneath the scattered stones,—speak of the vanity of mortal things. To the east of the city, there is an amphitheatre where 20,000 spectators, at one time, looked upon the fierce gladiatorial contests in the arena and yelled with awful delight at the moans of the dying, but where the only sounds now are the moan of the lonely owl, or the hiss of the disturbed snake,

In the Street of Tombs, that peculiar burying-place common to all Roman cities, there is the Villa of Diomede, which possesses a strange interest, from the discovery, in the cellar, of the charred remains of eighteen women and children, who had provided themselves with food and sought protection here, but who were finally smothered. They were all found with their heads wrapped up, and were half buried by the ashes that had sifted through the opening. The proprietor of the house was discovered near the garden gate, with a large silver key in his hand, while beside him was a slave with money and valuables. It is to be regretted that casts of these bodies were not obtained, the process not having been invented till a later date.

As the excavations proceed, many discoveries are made which add to the tale of horror told by this doomed city. In one of the rural houses near the Sarno, were found several skeletons of women with magnificent necklaces about the bones of the necks, revealing the fact that they were wealthy Patricians, who were, no doubt, surprised by the eruption while attempting to escape. On December 30, 1889, the Director of the Excavations discovered the impresses of some bodies on the right of the Stabian gate, and ordering plaster to be poured into the cavities, obtained four perfect casts—three of human beings and one of a tree, the last of which led to an interesting, if not important, discovery. There were two men,—one of whom was lying on his side, the other, supinely,—and a woman flat on her face, with her arms extended; all evidently overwhelmed while fleeing from the doomed city. The tree was carefully examined and found to be the *Laurus Nobilis*, the fruits of which ripen late in the autumn. From the presence of large mature berries on the branches, the deduction was made that the eruption occurred in November, instead of August, 79. However, the consensus of opinion seems to settle upon the latter as the correct date.

EXPLORATION AND DISCOVERY IN BABYLONIA *

BY ROBERT FRANCIS HARPER.

Dr. E. J. Banks, Field Director of the Expedition (Babylonian Section) of the Oriental Exploration Fund of the University of Chicago, has reported that the excavations at Bismya began on December, 25, 1903, and that they are now proceeding to his full satisfaction. With the commissioner, one servant, and a consular kavass, Dr. Banks left Bagdad by carriage for Hilleh on December 11. December 13, in company with Aldewey, he spent examining excavations at Babylon, and on the following day he visited Birs Nimrud. The party reached Diwanieh on December 15, and presented their letter to the Intendant. No obstacles were placed in their way, and the authorities claimed that it would be unnecessary to take a large guard to Bismya. With two mounted and four foot-soldiers, and four workmen from Diwanieh, the party started for Bismya December 17, and on the second day reached the village of Habbaniyah, the sheikh of the El-Bedin Arabs in whose territory Bismya is located. They were received hospitably by the sheikh, and on the following day Dr. Banks, with about twenty horsemen, spent a few hours at the ruin, which is three hours from the village. It was the intention of the Field Director to begin the excavations with about forty men, but, on account of the numerous Montefik Arabs who had wandered north to escape the fighting about Nasarieh, the country is unsafe. Habbaniyah, who has been informed by the Turkish authorities that he will be held responsible for the safety of the party, was cautious and insisted that it would be unwise to remain at Bismya with less than sixty armed workmen. On December 20 and men were placed at work upon two wells in what Dr. Banks believes to be the bed of the old canal Shat en-Nil, and also of a later stream which dried up at the breaking of the Habbaniyah dam. At the end of the second day one of the wells reached a depth of ten meters, when the dry sand suddenly moved in, nearly burying the workmen, and they were forced to abandon this well. On December 24th work was begun on two more wells, and on the 25th, as he was arranging to send to Habbaniyah for some water-skins and to establish a water caravan of several donkeys, the workmen announced that the sand seemed moist, and at nine o'clock on Christmas morning—the best Christmas gift possible—water sprang up through a hole made by a workman's pick, and the water was sweet. There was

*THE AMERICAN ANTIQUARIAN has the privilege of publishing the report of the Expedition to Babylonia in common with the Biblical World.

great excitement among the workmen; they ran about the well dancing, singing, and swinging their baskets in the air. The Field Director was no less pleased than they, and he ordered sheep to be sacrificed for their baksheesh. A third well progressed slowly. On December 28th water was also found in it. Thus one of the difficulties which have kept excavators from Bismya is settled, and there is every indication that the water will suffice for every season of the year.

Bismya is a very large ruin, only Nippur, Warka, and perhaps Babylon surpassing it in extent. Its height does not exceed twelve meters, but it is considerably higher than Tell Fara, and other ruins where excavations have been successfully made. The length of the entire group of mounds, including a small low hill two hundred meters or so to the northwest, is 1,695 meters; the width is 840 meters. In a general way, the ruins form a rough oblong square. The square may be described as consisting of two parts, separated by a valley running east and west. The northern part, which is by far the larger, is lined on its western edge by nearly a dozen high circular mounds, as if representing so many buildings apparently overlooking the canal. The hill gradually slopes away to the east, which Dr. Banks believes to be the old necropolis. The southern part is not extensive. Its highest hills are in the southwest corner. Dr. Banks is of the opinion that the mound has not been inhabited since Babylonian times. There are no walls visible above the surface; the few heaps of brick which the Arabs have collected have been mistaken for walls. The surface of the mound is smooth, and has not been dug over by the Arab antiquity hunters, as have been most other Babylonian ruins, for Bismya is so far from water, and in so dangerous a locality, that a single man, or a small company of men could remain there for only a few hours at a time.

Already a village has sprung up at Bismya. Scattered about the Field Director's tent are thirty houses with women and children; three shops, a carpenter, and a butcher; and even a street dog has found its way there. It is understood that after the workmen receive their pay a great many more families will arrive.

Excavations are proceeding with a force of one hundred men. As yet only the surface has been scratched, and in no place have they gone to a greater depth than two meters; but wherever they dig they come upon some wall or tomb. The men, some of whom have worked in every ruin in Babylonia, agree that Bismya is by far the richest and the easiest to excavate. The results which are so rapidly coming in are evidence of this.

The Arabs have given the Field Director much trouble. There seems to be a dispute about the ownership of the site of Bismya, and the following letters have passed between the Field Director and the sheikh of the Montefik:

LETTER RECEIVED FROM ABDUL RAZAK, SHEIKH OF THE
MONTEFIK.Mr. BANKS, *American*:

We have learned that you are digging in the limits of our property and are bringing from the ground many things. Although, according to the regulations and the law, no one may touch the land of another without the consent of the owner, yet the land which you now inhabit is actually included in the limits of our property, of which we have in our hands the title deeds describing the limits. Since you have come to live in this district without our consent and without obtaining our permission, you are doing business and spending money with other people who have neither power nor right in this district, and who can afford you no protection. Moreover, as you are to spend a large sum of money, it should be with the original owners of this land. Now, as you have knowledge of this entire matter, it is for you to judge what is proper.

(Signed) ABDUL RAZAK IBN FEHAD PASHA.

REPLY TO THE LETTER OF ABDUL RAZAK.

To the most honorable Abdul Razak, Bey:

SIR: We have received your kind letter of the 21st in which you inform us that the land of Bismya belongs to you, and is included within your territory according to your deed. Until the present time we have been ignorant of this, and, moreover, Sheikh Segban, sheikh of El Bedin, to whom the Ottoman government, through the mutessarif of Diwanieh, has recommended us by letter, also asserts that he is the sheikh of this territory, and that no one else has a right to interfere with it.

Consequently we beg you to send us your papers, that we may study them and judge who is in the right. However, if you wish, you may also write to Sheikh Segban in order to settle the matter with him.

(Signed) Field Director of the Excavations at Bismya,

DR. BANKS, *American*.

Bismya is an exceedingly rich ruin, and there is not a yard of it without something of interest. The excavations have already demonstrated what the ruins contain, and if funds were available to employ several hundred workmen, not only would the security, which just at present is very uncertain, be perfect, but the entire ruin could be satisfactorily excavated before the expiration of the irade. The expense of the staff, which is by far the larger part, would not be materially increased.

DISCOVERIES IN EGYPT.

For many years, excavations have been carried on in various parts of Egypt under various auspices, and this year is no exception to the rule. Among such as are now in progress, those of the University of California, made possible by the liberality of Mrs. Hearst, yield to none in importance. At Naga ad-Der, opposite the thriving town of Girga, Messrs. Lythgoe and Mace are bringing to a close the work begun several years ago and continued every winter. Here thousands of tombs have been opened, belonging to all periods from prehistoric times to the twelfth dynasty. The vast necropolis contains also tombs in an almost unbroken series to the eighteenth dynasty, and close

by are tombs of the later New Empire, of Ptolemaic and Roman times, while Coptic burials cover nearly the whole site. In the tombs of the prehistoric and early dynastic times the bodies were laid on the side and buried in a contracted position, sometimes with the knees almost immediately under the chin. The bodies lay upon a matting and were covered by a second matting. About the graves were twigs to keep the sand from falling in.

The historical or ethnological results of the excavations at Naga ad-Der are interesting and important. Dr. Elliott Smith, after careful study of the human remains reaches the conclusion that the Egyptian race, as represented at Naga ad-Der, was one single continuous race from the earliest prehistoric times to the twelfth dynasty. This result, derived from anatomical study, confirms the same conclusion which the excavators draw from the archæological evidence gathered from the same tombs. Dr. Elliott Smith's study of skeletons of other periods and skeletons of modern Copts leads him to the further conclusion that the continuity of race in Egypt persists to the present time.

It is already evident that there are distinct periods in the history of the necropolis. The earliest period belongs to the third dynasty, the second to the fourth and fifth dynasties, the third to the sixth and seventh dynasties. As yet the extent of the cemetery at each period is not known; but, as the excavations advance, its extent as well as its character at each stage of its history will no doubt be definitely determined. The excavations at Naga ad-Der have shed much light upon the development of the mastaba, and the knowledge gained there is of immediate use in the field by the pyramids.

In the neighborhood of Luxor, excavators were busy last winter at several points. M. Naville, excavating for the Egypt Exploration Fund, at Der el-bahri, has found a small temple of the Middle Empire so closely resembling the great temple of Queen Hatshepsu, that it may well be the model of that remarkable building. At the Ramesseum, Mr. Carter, inspector of antiquities, is carrying on extensive excavations with the purpose of laying bare all the surrounding buildings. These are very numerous—so numerous and various that the site, when fully excavated, will probably be almost, as it were, an Egyptian Pompeii.

PREHISTORIC CHINA.

BY MIRIAM ZIEBER.

Ages before man trod the earth his future home was preparing for him; and long periods before such a thing as a Chinaman was thought of, the region he was to inhabit was getting ready for his advent.

Far back, in the prehistoric ages of mankind, a great "stem" of the human family branched off from the region of the Caspian Sea, and slowly spread itself over what is now China proper. While Egypt was pyramid building and working mighty miracles by magical rights, China was slowly but surely laying a broad and deep foundation of industry, a foundation on which a superstructure of civilization was destined to be erected, less speculative but more enduring by far than that of the Nile lands.

It is said that Asia has been inhabited since the earliest Stone Age, so that, even if the time of Stone Age differs with different peoples, the *earliest* Stone Age must have been a long time before any historical record.

The Egyptians claimed from two to three thousand years B. C. as their historical right; but the legends of China (which, of course, the Chinese have not considered legendary, but a true account of their far back history) assert that Fuh-hi founded the Chinese Empire about 3000 B. C. Founded the empire, mind, not measured off the land to be occupied by some rude tribes hastening northeast from the Caspian. Now, an empire cannot be founded in a day, and when we are told that even in Fuh-hi's time China's people were writing on tablets, and that she was employing her own artists and physicians, besides artisans of many kinds, the question naturally arises, "From whom did they learn all those things?" The vast country between China and Egypt certainly was neither inhabited by civilized peoples, nor traversed by travelers of either country 3000 B. C.

Where, then, did the Chinese obtain their knowledge, if not within their own country? Writing and artistic work must be learned by slow degrees, and perhaps some day we shall discover far below the present surface of China's soil, buried cities whose antiquity may rival those of Egypt, and whose excavated relics may hold the clue that will unravel the deep silence between the ancient and the *most* ancient world.

Read what Stuart Glennie has written about the "ground race" in the inland sea, now the desert of Gobi; also what Rev. I. C. Black says about the Chinese and the Accadian language; also what other writers have said about Old Accadia as having been the original home of the Chinese, and what Prof. Hilprecht has said about the date of the beginning of civilization in Babylonia.

ANTHROPOLOGICAL NOTES.

BY ALEXANDER F. CHAMBERLAIN.

ANCIENT LATIUM. According to R. S. Conway (Riv. d. Stor. ant., 1903) there were in this region two strata of population, represented by the Volsci and the Sabines. The former, linguistically Aryan, were probably quite widespread over Central Italy before the invasion of the Etruscans or *gens Lydia*,—indeed, the term *Etrusci*, *Tusci*, may have been coined by them. Possibly they were not acquainted with iron until the coming of the Sabines, who, unlike the Volscians, cremated their dead. The Sabines came from the north and were already well within the peninsula, when their progress was for a time interrupted by the Etruscans and their Volscian subjects. The early tribe of the Latini in the valley of the Tiber was interfered with on the north by their brethren, and on the south by the Volscians of Latium,—they were thus surrounded by tribes speaking other languages. Conway questions whether the Roman plebs was not of primitive Volscian, and the patricians of Sabine origin. This note is based on the brief abstract of the paper given by Giuffrida Ruggeri in the "Atti della Società Romana di Antropologia" (Vol. IX., 1903).

* * *

ANTHROPOLOGY IN EDUCATION. The address of Dr. Frank Russell as retiring President of the American Folk-Lore Society, "Know, then, Thyself" (Journal of American Folk-Lore, Vol. XV., 1902, pp. 1-13), is an able appeal for the recognition of anthropology as a great and necessary factor in the education of the real student. It trains the senses, stimulates thought and discussion, ameliorates race-prejudices, checks self complacency, corrects over-specialization, begets open-mindedness. It is valuable alike to the theologian, the diplomat, the jurist, and the statesman. The author's arguments are enforced by his own personal experiences. Nor is the avowal he makes of his debt to the "savage" unique (page 6): "Old Peter, the Assiniboine, for example, with whom I hunted big horn in British Columbia, taught me as much about observing as any college professor ever did." This address should be good reading for all teachers.

* * *

HARICOT BEANS. In a paper read before the French Association for the Advancement of Science at the Angers Meeting, August, 1903, Count de Charency put forward the view that *haricot*, the name by which the *Phaseolus vulgaris* is known in French, may be derived from the Nahuatl *ayacatl*, a term said to have been applied to the Spanish bean. But, as Zaborowski

(R. de l'Ecole d'Anthrop. de Paris, XIII., p. 362) observes, the word *haricot* (*aricot*, *h'ricaut*) is much older than the discovery of America, and could not possibly be of Mexican origin. De Charency takes no account of De Candolle's earlier discussion of this word, in which he derives it from the Italian *araco*, the name of a leguminous vegetable (*Aracus niger*), from which it easily could pass to the American bean.

* * *

NECROPOLIS OF KLICEVAC. The necropolis of Klicevac, in Servia, is of great importance in the archæology of south-eastern Europe. It dates, according to Hoernes, from at least 2000 B. C., and Vassits (Rev. Archéol., 1902; Giuffrida-Ruggeri, A. de Soc. Rom. di Antrop., 1903) emphasizes the resemblance between the culture there represented and that of Mycenæ. At the "station" of Klicevac are found together objects exhibiting the Mycenian style and the geometric style; from which it would seem that these two styles existed together in the north of the Balkan peninsula, and were imported thence into Greece, either by way of commerce or as the result of war. Nor is Greece itself without objects showing the contemporaneity of these two styles in the remote past.

* * *

RACE. The discussion, by the eminent Dutch ethnologist, Steinmetz, of "Hereditary Characters of Races and Peoples" (Vierteljahrsschr. f. wiss. Philos., Vol. XXVI., 1902, pp. 77-126) is both interesting and valuable, not only for the views expressed, but also on account of the wide range of bibliographical references. The author takes the general ground that attempts to prove the existence of unique race-characters have been, as yet, unsuccessful. Races and peoples are differentiated essentially by the length of time they have been submitted to modifying factors. America (the U. S.) is still a people, not a race,—it may never reach the latter point. Between the "higher" (e. g. European) and the "lower" races no deep-set original differences exist. Such as do occur are explicable as the result of favorable environments, selections, etc. Those who exaggerate the characters of the highest Aryan peoples fail to pay due attention to the uncivilized and unprogressive peoples of the same stock. As Steinmetz points out, the statements of the advocates of "race-heredity" often cancel each other. This is the case, for example, with Houston Chamberlain and De Lapouge's estimates of the national and racial character of the Semites. Steinmetz's article is one of the very best of recent discussions of the questions involved in the question of "race heredity," "higher and lower races," "Aryanism," etc.

* * *

SAHARAN PREHISTORY. Norberto Font y Sagué published in the "Boletín de la Sociedad española de Historia natural" for November, 1902, an article on "Los Kiokenmodings de

Switzerland; on the spear-heads of Germany; on the ancient coins of Gaza, Palestine; on the ancient Hindu coins; and on the gold ornaments of Denmark.

The distribution of this symbol throughout the continent of America, is a subject which Mr. Thomas Wilson treats extensively. He shows that it is found upon the shell gorgets of Tennessee; on the copper plates of Ohio; and on the bead belts of the Iroquois and Sac Indians. A modified form is found in the sand-paintings of the Navajos. Mr. Wilson refers to the discovery of an engraved shell in the Toco Mound of Tennessee, on which was an image resembling the statue of Buddha, and thinks the symbol was introduced by Buddhists. Mr. W. H. Moorehead found many specimens of copper ornaments in the Hopewell Mounds. Among them were stencil ornaments



CUP STONE AT CINCINNATI, OHIO.*

of thin copper, cut in the shape of the clover leaf and the fish, giving the idea that they were introduced by the missionaries from Europe, and became mingled with those common among the aborigines; five suastika crosses; a long mass of copper covered with wood; eighteen single copper rings; a number of double copper rings; ten circular copper rings, with holes in the center; an ornament in the shape of a St. Andrews cross; copper plates; copper hatchets; pearl beads; a copper eagle; spool-shaped objects; one stool of copper; a human skull with horns; a copper plate, placed on the breast of the skeleton; and an altar. This find is important, and does not decide the question as to the transmission of the suastika before the time of the Discovery. It would seem, however, that on general

*The cut represents a rock found in Southern Ohio, which is now in the Museum in Cincinnati, Ohio.

principles it is easier to borrow such symbols than to invent them.

It should be said here, that the fire symbol, the phallic symbol, the horseshoe, the looped square, the serpent, and the cross were closely associated in American symbolism. The serpent was divided into four parts, the number four reminding us of the four parts of the heavens. It is supposed that the serpent symbolized the water and cloud, and sometimes the lightning. The phallic symbol signified the life principle.

The significance of the hooked cross in America is difficult to decide upon, for it is found in a great variety of materials; sometimes on the shell gorgets, sometimes on copper plates, sometimes cut into the rocks, and moulded into pieces of pot-



FIRE DANCERS.

tery. Such is the case among the mounds. It is here associated with the circle, the square, the common cross, the coiled serpent, and many other symbols. In fact there is scarcely any ordinary symbol which is not found in some form, in some material among the mounds. This shows that there was an extensive system of symbolism which had either been introduced among the Mound-Builders, or had been invented by them. The description of these symbols is given in the book on the Mound-Builders.*

In connection with the subject of the hooked cross as a fire symbol, it may be well to consider the various ceremonies which were connected with the fire among the aborigines. Dr. Washington Matthews has described a ceremony which prevailed among the Navajos. The ceremony took place after

*See "The Mound-Builders; Their Works and Relics," pp. 51-54, 301-304.

nightfall, in the midst of an open circle. It appears that those who took part in it, had on only their breech-cloth and their moccasins, and were daubed with white earth until they seemed a group of living marbles. As they advanced in single file and moved around the fire, they threw their bodies into divers attitudes: now they faced the east; now the south, west, and north—bearing aloft their slender wands, tipped with eagle down. Their course around the fire was to the left, by way of the south. When they had circled the fire twice they began to thrust their wands towards it and throw themselves back, with the head to the fire, as though to thrust the wand into the flames. When they succeeded in lighting it, they would rush out of the corral.

There were other ceremonies among the Navajos, in which they raced with firebrands in their hands, the brands throwing out long brilliant flames over the hands and arms of the dancers; they strike one another with the flaming wand, and sometimes catch one another and bathe them in flame. The significance of this ceremony is unknown, but seems to be very impressive.

The most interesting ceremony of the Navajos was connected with the suastika, or hooked cross, which was used, not so much as a symbol of fire, as a symbol of life. The cross was a part of the sand-paintings and represented the common cross, but in different colors. On the ends of the cross, the divine forms stood, making the arms of the cross lie with their ends extended one to each of the four cardinal points. On the cross are figures which wear around their loins skirts of red sunlight adorned with sunbeams. They have ear pendants, bracelets, armlets of blue and red turquoise and coral, the emblematic jewels of the Navajos; the four arms and legs are black, showing in each a zigzag mass representing lightning on the surface of the black rain cloud. Each bears attached by a string to his right arm, a basket and a rattle, painted to symbolize the rain cloud and the lightning. Beside each one is a highly conventionalized picture of a plant, which has the same color as the god. The body of the eastern god is white, so is the stalk of the corn on the left; the body of the southern god is blue, so is the beanstalk beside him; the body of the western god is yellow, so is the pumpkin vine beside him; the body of the north god is black, so is the tobacco plant by his side. Each of the four sacred plants is represented as growing from five white roots in the central waters and spreading outwards. The gods form one cross, which is directed to the four cardinal points; the plants form another cross, but all have a common center. On the head of each god is an eagle plume, all pointing in one direction. The gods are represented with beautiful embroidered pouches, symbolizing the rainbow, or rainbow deity; one end of which is the body below the waist, having legs and waist and feet and skirt, at the other end head and neck and arms. This is the rainbow goddess, which resembles

the Iris of the Greeks. In the east, where the picture is not enclosed, are two birds, standing with wings outstretched facing one another. The blue bird, the herald of the morning, has the color of the south and the upper regions; he is sacred and his feathers are plume-sticks. These blue birds stand guard at the door of the house wherein the gods dwell.

The colors, among the Navajos, are sacred to the different points of the compass. The east is white; the south, blue; the



NAVAJO SAND PAINTING.

west, yellow; and the north, black. The upper world is blue, and the lower world, white and black in spots.

This cross, formed by the bodies of the goddesses standing on the rafts, with the plants standing on the side, the rainbow colors with the symbols of the sky in their hands, shows the love for beauty which prevailed among this mountain people, and at the same time shows the symbol of the cross.

There is no mythology more beautiful than that of the Navajos, and it seems to have been original with them. Still we are to notice that the humanized rainbow resembles that which was common among the Egyptians and signified about the same thing. This resemblance leads us to the subject of the transmission of symbols. This has been treated by Goblet

de Alviella, who is regarded as the best authority upon the subject. He, however, confined his studies mainly to the symbols found in Eastern lands, and only refers briefly to those scattered over this continent. He maintains that an esoteric system prevailed throughout the world, but was better understood by the priests and magicians than by the common people, but that there was so much secrecy about it, that it was difficult to decide whether it was borrowed from others, or invented independently.

It is acknowledged by all that there are many symbols in America which so strongly resemble those found in Europe and in Asia, as to suggest that they came from some common center and were gradually transmitted from one continent to another. Among these symbols, the most common and widespread are those which are connected with the worship of the elements, and especially with the worship of fire. As proof of this, we have only to refer to the fact that the cup stones, as well as the suastika, are very common in this country and in Asia, and the explanation which has been given, that they were used for generating fire, is the most plausible one.

It is to be noticed that the custom of making a new fire was common among the natives of America. Prescott has described that which occurred among the Mexicans. He says:

"Among the Aztecs it was at the end of fifty years that the new fire was created, instead of every year as among the Muskogees. The ceremony took place upon the summit of a mountain, about two leagues distant from the city. A procession of priests moved toward this mountain, taking with them a captive taken in war and the apparatus for kindling the new fire. On reaching the summit of a mountain, the procession paused till midnight; then as the constellation of the Pleiades reached the zenith, and while the people waited in great suspense, the new fire was kindled by the friction of the fire drill placed on the breast of the victim. The flame was then communicated to the funeral pile on which the body of the captive was thrown. As the light streamed up to heaven shouts burst from the countless multitudes which covered the hills, terraces, temples, and housetops. Couriers with torches lighted bore them over every part of the country, and the cheering element was soon brightened on many a hearthstone within the circuit of many a league."

Mr. Thomas Wilson has given a map showing the distribution of the suastika throughout Asia, America, and Europe. This map is very suggestive, for it shows that the symbol might have been introduced into America from either side—from Asia or from Europe. If from Asia, it seems probable that it was in prehistoric times; if, on the other hand, it was introduced from Europe, it might have been in historic times.

There is one point to be considered in connection with this theory of the transmission of such symbols as the hooked cross

or suastika and the winged figure. If they were transmitted from Europe they did not carry with them those symbols which were quite common in mediæval times, and so must have been transmitted before that date. There were fire symbols in Europe before mediæval times, but the basilisk and the cockatrice, and other symbols, became common at a later time.

The dragon, or winged serpent, has performed a part in many creeds, and the dragon slayer has been the hero of countless legends. These legends vary with climate and country and the development of the people with whom it is found. In Egypt the dragon was called Typhon; in Greece, Pytho; in India, Kalli Naga, the "vanishment of Vishnu"; in Anglo-Saxon chronicles he is called Draco, "the fire drake," "the denyer of



MAP SHOWING DISTRIBUTION OF THE SUASTIKA.

God," "the unsleeping, poisoned fanged monster," "the terrible enemy of man, full of subtility and power."

The story of St. George and the dragon is a common one, which has come down to us through the ages, but it is a survival of hundreds of earlier ones. An old legend of the founding of Thebes by Cadmus, is as follows: "Arriving on the site of the future city, he proposed to make a sacrifice to the protecting goddess Athene, but on sending his men to a distant fountain for water, they were attacked by a dragon. Cadmus therefore went himself, and slew the monster and, at the command of Athene, sowed its teeth on the ground, from which immediately sprang a host of armed giants. These on the instant all turned their arms against each other, with such fury that they were all presently slain, save five. Cadmus invoked the aid of these giants in the building of the new city, and from these five the noblest families of Thebes hereafter traced their lineage." The meaning of this story and the

origin of the dragon tales are difficult to understand. It is supposed, however, that they originally represented some operation of nature. "The dragon wing of night overspreads the earth," is an expression which shows the effect of imagination when aroused to the story of such monsters.

Many the poets gathered these stories into a book, which shows their prevalence before his day, but they continued to be told ever through the Middle Ages. Among these stories, were those of the unicorn, and of the cockatrice. The unicorn, some of men seems to have studied observation in a wonderful way, and the men of science have been left to abstract their facts from the slightest hints. One of the medieval writers adopted the plan of compiling statements in reference to the unicorn just as they came to hand. Pliny states that it is a fierce and terrible creature. Those which Gracian de Horta described about the Cape of Good Hope, were bearded with heads like horses. Those which Vartomanus bearded he described as a huge lizard.

The cockatrice was another creature which was often described. It is called the king of serpents, because of its majestic pace, for it does not creep like other serpents but goes half upright from which cause all other serpents avoid him, and it seems that nature designed him for preëminence from the crown or coronet on his head. It is said to be half foot in length the hinder part like a serpent, the fore part like a cock. These monsters are supposed to be found in Africa and some other parts of the world. Guildaumes, a Norman priest, who wrote a book in the Middle Ages, which is a full description of these monsters, and especially of the cockatrice, says their poison is so strong that there is no cure for it, and one is in such a degree affected by its presence that no creature can live near it. It kills not only by its touch, but even the sight of the cockatrice is death, and all other serpents are afraid of the sight and hissing of a cockatrice. The heraldic cockatrice is represented as having the head and legs of a cock, a scaly body of a serpent, and the wings of a dragon, but a crowned head. The basilisk was the king of serpents. It is described as a huge lizard, but in later times it became a crested serpent. Like the cockatrice, the glance of its eye was death. Pliny says, "We come now to the basilisk, which all other serpents flee from and are afraid of; albeit he killeth them with his very breath and the smell that passeth from him, and if he do set his eye on a man, it is enough to take away his life."

ARCHÆOLOGICAL NOTES.

R. HILPRECHT is making arrangements for another expedition to Asia next fall.

R. H. BALFOUR has been re-elected president of the Anthropological Society of Great Britain.

R. GEORGE F. KUNES has been appointed as Commissioner of the Exposition at the St. Louis Exposition.

R. F. LEGGE made an address to the Society of Biblical Archaeology on "Present Knowledge of the Early Egyptian Dynasties."

R. WILLIAM C. MILLS, custodian of the Archæological collection of the University of Pennsylvania, will have charge of an exhibit at the St. Louis Exposition.

R. EMILE RIVIERE has been elected first president of the Society of Prehistoric Archaeology of France, recently established.

PROFESSORS PUMPELLE AND DAVIS have visited Turkestan, under the auspices of the Carnegie Institute, to study the ancient human occupation of the region, but have not yet reported.

MES HAMMOND TRUMBULL was the author of a Natick Dictionary, which has recently been published by the Bureau of Ethnology. He was a very able man who understood the language of the Indians of New England.

R. GEORGE BYRON GORDON has been elected instructor in Anthropology in the University of Pennsylvania. This is the chair which was formerly held by Dr. D. G. Brinton, and was filled by him with great ability.

THE Journal of the Polynesian Society (December, 1903) contains an article by E. Best, "Notes on the Art of War as Conducted by the Polynesians," and three articles by S. Percy Smith, with a plate representing a framework of poles interlaced.

R. A. F. CHAMBERLAIN has an interesting article in the American Journal of Folklore, December, 1903, on "primitive woman as a poet." It is worth reading, for it shows that the poetical afflatus was enjoyed in prehistoric times, even, if the form of poetry was lacking, somewhat.

DISCOVERIES AT PERGAMOS.—Dr. Dörpfeld has been engaged in clearing up the ruins at Pergamos, Asia Minor, and has laid bare the road that zig-zags up the hill, a great square court, and an altar; also a vaulted entrance to the gymnasium terrace, and a stone stairway and a part of the city fortification. A sculpture is represented by an Alexandrian head, and an altar which is said to be the time of Alexander.

RECENT DISCOVERIES AT EPHEBUS.—The Austrians have been at work excavating at Ephesus. A theatre was found with sixty-six rows of seats made of limestone covered with marble; below the theatre, to the south, a well-paved road, and at right angles to this, the colonnaded road leading from the theatre to the harbor. It is 500 meters long and was bordered by a series of porticoes. A large open court was surrounded on three sides by an Ionic colonnade and a mosaic pavement. Where the roads cross each other there are monumental niches filled with statues. On following the end of the road eastward, the great marble gate is reached. Leading from it was a flight of steps, with colonnades of six columns. A round archway with two rows of columns, the lower Doric, the upper belonging to the Hellenic period, was disclosed. The most interesting finds were the fragments of sculpture, both bronze and marble; but most important of all, a bronze athlete, also a fine female head and the upper half of an altar, which belongs to the Hellenic period.

A MAP OF THE MOUND OF KADESH.—Since the publication of the "Battle of Kadesh," Prof. Breasted of the University of Chicago has discovered in a most unexpected and out-of-the-way corner in Berlin, a map of the modern mound of Kadesh, something for which he looked in vain all last year. This is a strong confirmation of the results in the Kadesh essay.

PREHISTORIC ROCK CARVINGS.—In 1889 Perrier du Carne discovered, in a cave at Teyjat in Dordogne, France, flints and carvings on bone. A careful examination of the walls at the point where this discovery was made, revealed a series of nine animals very finely carved. Among them are a bull and a cow, a horse of the quaternary period, a bison, and two antelopes or goats. This makes the ninth grotto known to contain such drawings.

ITALIAN DISCOVERIES AT PHAESTOS, CRETE.—Recent discoveries have been made as follow: Christian tombs later than the fourteenth century; foundation stones and pavement of an ancient sacred precinct, earlier than the Hellenic period, but still in use at that time, and containing many votive offerings; at a still lower level, two Mycenaean buildings, one above the other. The later one was a palace, but built also for defence. The earlier one consisted of two large, fine apartments, storerooms, and rooms for slaves. The arrangement is described in detail. The most notable discoveries occurred on the eastern and northern slopes of the hill. Here were found remains of houses, streets, and tombs. The houses and tombs were evidently those of people who worked for the master of the palace.

DISCOVERIES IN ITALY IN 1902.—Many facts for the study of pre-Roman Italy are constantly appearing. Cave-tombs in Sicily show an unbroken continuity of the second and third periods, and Orsi thinks he finds traces of Siculan occupation of the mainland, as Thucydides says. Many early graves have been found in Roman and Alban territory. At Grotta-ferrata, beside a neolithic grave, there are many burnt graves in which the ossuary and gifts are placed in large jars. The ossuaries are either vase-shaped with roof-like cover, or hut-shaped. One of the latter has a window and contains a rough clay figure, which undoubtedly represents the dead and explains the meaning of the miniature articles that appear among the furnishings.

EXCAVATIONS IN THE FORUM AT ROME.—The subterranean galleries beneath the area of the Forum have been further excavated. So far six vaulted chambers have been found, each containing, in the center of the floor, a block of travertine with a round hole in it for the capstan by which the elevators were worked in the shafts. In one gallery a fragment of *lapis niger* was found. This would indicate an earlier date for the pavement than has been assumed, as other objects found seem no later than the end of the first century B. C. At the end of the peri-style of the Atrium Vestæ are traces of a building, which preceded the earlier atrium. At the south-west of the temple of Augustus remains have been found which may be those of Horrea Germaniciana.

A ROMAN FORT.—Mr. Mungo Buchanan, of Falkirk, is preparing a record, with plans, of the excavations which are being conducted by the Scottish Society of Antiquaries at Roughcastle, Scotland, one of the Roman forts on the line of the Wall of Antoninus, near Falkirk. The ramparts have been constructed in the same fashion as the wall; a layer of stones was used as a foundation, and then layers of turf till the desired height was reached. There are evidences that the fort was built at a later date than the wall; there was, at Castleway, a gateway on the north side, as well as one the east, south, and west. A series of pits, which apparently contained sharpened stakes, guarded the northern gate.

A BRONZE CHARIOT FROM NURICA.—There has recently been placed on exhibition in the Metropolitan Museum, New York, a fine bronze biga, which was found near Nurica. On the front are a standing warrior and a woman, who seems to be handing the man a helmet and oval shield, bearing a Gorgon's and a lion's head. Beneath the shield is a spotted tawn on its

back. One side of the panel shows two warriors fighting over a fallen body. One of them carries an oval shield like that on the front and with the same decoration. The other panel shows a man in a chariot drawn by winged horses galloping over a prostrate figure with long hair and a garment reaching to the feet. Beneath the front of the chariot projects a boar's head as a socket for the pole, which ended in an eagle's beak. Of the bronze portions but little is missing, even the wheels being well preserved. The wooden portions have been restored. Fragments of ivory indicate a lining of this substance. The small size and delicate construction seem to indicate that it was an *ex-voto*, or only made for burial in the tomb.

ANCIENT ROAD AND STONE SEATS IN NEW ZEALAND.—The Journal of the Polynesian Society for December, 1903, contains a description of an ancient road called the "Great Road of Toi." It follows, generally, the foot of the hills, cutting across the mouths of the valleys, leaving the level flat to the seaward. It is about 22 or 23 miles in length, and is paved with flat volcanic or coral stones. Its width is about 15 or 20 feet. In several places, at the sites of old villages, are to be seen stone seats, where local gossips used to sit and learn the news of the passers by. The principal temple or marae, where the ruling chief often dwelt and where the sacrifices to the gods were made and the annual Feast of the Presentation of the First Fruits was held, was located at Araretunga. This was probably at one time enclosed with a wall. At Arerangi, where the high chief usually lived, is a platform, about two feet above the level of the road, the face of which is lined with stone seats having backs to them. When the minor chiefs used to visit the high chief (Ariki) they occupied those seats, and they lodged in a seven-roomed house on the opposite side of the road, which was called a house of amusement. At Araitetinga there was a seat on which the chief pontiff sat when offerings were made. On his right, was seated a priest, and further away, was a seat which was called *puera*, meaning to open or disclose, because it was through this priest that the decision was announced. Another seat was called *Maringi-toto*, or blood-spilling, because on this stone was laid the heads of the human victims which were brought here to be sacrificed to the gods. These seats remind us of those which were common in Peru and Mexico, though it is not known that there is any connection between them.

THE following is a partial list of the more interesting specimens in the library of the State Historical Society of Iowa; Baby moccasins, beautifully beaded; four colors on fine, soft buckskin. Gala (mug) from Pueblo region; red, with rows of black spots; handle like a pitcher; capacity, one pint. Gray earthen vase; neck 3 inches, base 5 inches; been much used; from Carroll Parish, La. Several Indian axes; found near Iowa City; 3 to 6 inches long, 2 to 4 inches broad. Stone hand hammer, with thumb hollow; round, 3½ inches in diameter; well formed. Granite anchor, 8 inches long, 5 inches in diameter; grooved near the middle for the rope or thong. John Brown's cannon; sent to him in Kansas by Free State men in Boston; brought back by Brown to Oxford, Iowa; bronze, with cultivator wheels. Confederate Mortar, from Island No. 10; wooden, bound with iron. Glass Case for exhibiting collections, 8½x2½x1½ feet; dark wood, heavy glass; took first prize for workmanship at Crystal Palace Exhibition, Hyde Park, London, 1851. Fine collection of U. S. copper coins, from 1792 onward. Many copper coins from various ages and countries. Fine collection of Confederate paper money; all denominations. Collection of Colonial paper currency. Many valuable pictures of early settlers in the West, especially Iowa. Many relics of the Civil War, swords, guns, belts, canteens, flags, caps, etc.; colors of the 1st, 2d, 9th, 11th, 18th, 21st, 25th, 26th and 30th Iowa regiments. Several Southern flags taken by Iowa men.

BOOK REVIEWS.

A HISTORY OF THE MISSISSIPPI VALLEY FROM ITS DISCOVERY TO THE END OF FOREIGN DOMINATION. The Narrative of the Founding of an Empire, Shorn of Current Myth, and Enlivened by Thrilling Adventures of Discoverers, Pioneers, Frontier's Men, Indian Fighters, and Home Makers. By John R. Spears in collaboration with A. H. Clark. With facsimiles, maps and portraits. New York: Published by A. S. Clark; 1903.

This is a splendidly illustrated book, and one that ought to interest the American people at the present time. It contains a beautiful picture of Fort Niagara in 1813; a reproduction of De Lisle's map of 1703; Moll's map of 1710; Joute's map of 1713, Labat's map of 1722; Celeron's map of 1749; map of Louis, 1796; a large number of portraits, including those of John Jay, Louis XV., Louis XIV., Hernando de Soto, Antonode Ulloa, Sir William Johnson, Major George Rogers, George III, William Henry Harrison, Benjamin Franklin, Andrew Jackson, the Cherokee Chief Outacite Charles Cornwallis, General Anthony Wayne, General Arthur Sinclair, and a large number of engravings representing various scenes.

It is a very beautiful book, is printed on good paper, and contains 416 pages. It is dedicated to Hon. Theodore Roosevelt. Its appearance is timely. It is a book which ought to sell well at the present time, in connection with the St. Louis Exposition.

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TRANSACTIONS OF THE ILLINOIS STATE HISTORICAL SOCIETY FOR THE YEAR 1903. Fourth Annual Meeting of the Society, Springfield, January 27 and 28, 1903. Published by the authority of the Board of Trustees. Springfield: Phillips Bros., State Printers; 1903.

The contents of this book are too valuable to be published on such coarse paper and in so cheap a form, especially as the great state of Illinois is supposed to pay the expense. The first article is the address of the Hon. Adlai A. Stevenson before the Society on January 27, 1903. The second article is by Mrs. Matthew T. Scott on "Old Fort Massac," and is illustrated by a full page half-tone plate, also a map from Victor Collet's Atlas of the Ohio River, and a plate representing the uniform of the United States Army in 1783, and another representing the same in 1802; also a plate representing the site of old Fort Massac. Following this are articles on the following subjects: "Men and Manners of the Early Days in Illinois," by Dr. A. W. French, and illustrated by a cut of the old State House at Springfield; "Sectional Events in the History of Illinois," by C. B. Green, Ph. D.; "Decisive Events in the Building of Illinois," by the Hon. William H. Collins, of Quincy, Ill.; "Edward Coles, Second Governor of Illinois," by Mrs. S. P. White; "Fort de Charters, Its Origin, Growth and Decline," by Joseph Wallace; "A Few Notes for an Industrial History of Illinois," by Ethelbert Stewart, Department of Labor, Chicago; and the Necrologist's Report, each one illustrated.

The character of these articles is certainly worthy of better printing. They do credit to the writers, and show the importance of the historical events which have occurred in this state, and the high character of its citizens. They show much literary culture and do honor to the state. In the Addendum, we find nearly 200 pages devoted to early records, as follows: "Church Records, with Transactions," by Rev. C. J. Eschmann; "Travels

in Illinois in 1810," by Ferdinand Ernst; "The Army Led by Col. George Rogers Clark in 1778," by J. F. Snyder; "An Early Illinois Newspaper," by J. H. Burnham; "Forgotten Statesmen of Illinois," by Hon. John McClain and Dr. J. F. Snyder; "The Attorney General of Illinois," by Mason H. Newell; "Local Incidents in the Career of Abraham Lincoln from 1832 to 1858," by Howard F. Dyson, with an atrocious woodcut, the face is good but the drapery very coarse; "Early History of the Drug Trade," with a fine portrait of Philo Carpenter, the first druggist, by Albert C. Ebert; "A Sketch of John Gabriel Cerre of Kaskaskia," with a portrait, by Walter B. Douglas; "A Report of the Committee on Historic Places," with plates representing the Lovejoy Monument, the Republican Wigwam of 1860, English Colony House at Albion, Illinois. "The Action of the D. A. R. in Relation to the Purchase of the Site of Old Fort Massac" constitutes the last article. This, with the preceding article, show that the historic spirit is thoroughly awake in Illinois.

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GLOBALUS. Illustrierte Zeitschrift für Länder und Völkerkunde. Herausgegeben von H. Singer unter besonderer Mitwirkung von Prof. Dr. Richard Andree. Verlag von Friedr. Viewig and Sons.

This is the only weekly journal devoted to archæology in existence. It treats of the different nations of the earth as they are seen by the modern traveller, and keeps a record of all archæological discoveries. It is well illustrated. The archæologists of this country will do well to subscribe for it.

* * *

THE EIGHTEENTH REPORT OF THE BUREAU OF ETHNOLOGY is occupied with a long article by Charles C. Royce on "Indian Land Sessions in the United States." The first part is devoted to the Esquimos about Behring Straits, written by Edward William Nelson, and splendidly illustrated. The report for 1897 and 1898 contains a treatise on the "Myths of the Cherokees," by Mr. James Mooney. Part II. is devoted to the "Localization of Tusayan Clans," by Cosmos-Mindeleff; "Mounds in Northern Honduras," by Thomas Gann; "The Mayan Calendar Systems," by Cyrus Thomas; "Primitive Numbers," by W. J. McGee, "The Tusayan Flute and Snake Ceremonies," by W. J. Fewkes, and "The Wild Rice Gatherers of the Upper Lakes," by Albert Ernest Jenks. The Twentieth Annual Report for 1898 is devoted entirely to "Aboriginal Pottery of the Eastern United States," by W. H. Holmes. This is also splendidly illustrated.

BOOKS RECEIVED.

- Flint Implements and Fossil Remains From a Sulphur Spring at Afton, Indian Territory. By W. H. Holmes, Head Curator, Department of Anthropology. From the Report of the National Museum, Washington.
- Report of the Exhibit of the U. S. National Museum at the Pan-American Exposition at Buffalo, N. Y., 1901. By Frederick W. Price, W. H. Holmes and George P. Merrill. Washington, D. C.
- Narrative of a Visit to Indian Tribes of the Purus River, Brazil. By Joseph Beal Steere, of Ann Arbor, Mich. Smithsonian Institution, Washington, D. C.
- Report of the U. S. National Museum, under the direction of the Smithsonian Institution, for June 30, 1901. Washington, D. C.

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THE ETHNOGRAPHY OF ART IN AMERICA.

BY STEPHEN D. PEET, PH. D.

We turn now to the ethnography of art, especially as exhibited on the American continent. This subject has been treated by various authors, but mainly from the study of the native art as it exists at the present time. Our purpose is to go back to prehistoric times and so far as possible, bring a picture of the art as it was before the Discovery.

I. We shall begin with the study of the sculptured art, as it is found in the different parts of the continent. We have seen that there was a great variety in the manner of representing the human form; a variety which depended in part upon the locality, and in part upon the material which was used, but mainly upon the character and culture of the people among whom the images were found.

It will be profitable to go over the different parts of the continent and examine these various specimens, and see how they differed from one another and what characteristics they bear. It will be found that they owe more to the mythology of the different districts than they do to the art, yet if we compare them with one another, we shall find there are great differences, notwithstanding the fact that they are all of them quite rude. They are certainly instructive, for they carry us back to an early stage of art, the very stage in which mythology and art are always combined.

I. We begin with the Northwest coast. Here the statues are so carved as to represent the human form with very considerable perfection; and yet they are so mingled with mythological creatures, and so covered with rude barbaric ornaments, that we are hardly ready to regard them as works of art, or even to call them idols, but use a more general term to describe them, viz., totem figures. These objects were looked upon with great reverence and sometimes even with affection, for they represented the ancestors of the tribes about whom so many tales were told, and the very mythologies which prevailed increased that reverence. Some of these images represented the heads of the houses and the founders of the villages, and were

erected by the permission of the animal divinities which had been previously worshipped and were still regarded as the unseen supernatural beings who controlled all their tribal affairs. There were no altars in front of these images, and no offerings were bestowed upon them or sacrifices made to them. They



were in reality more human than divine, and the art that was bestowed upon them was partly imitative and partly imaginative.

It was owing to this mingling of sentiment that these strange ob-

SCULPTURED ART OF THE NORTHWEST COAST.

jects were created. We can none of us enter into the feelings of the people among whom they were placed, nor can we fully understand the "motifs" of the artists who sculptured them. We know, however, that some of them were wrought out at great expense and whole fortunes were bestowed upon them; yet the money that was laid out, neither brought glory upon the artists who executed them, nor to the people at whose expense they were erected. They show a barbaric taste which resembled that of New Zealand and the islands of the sea, and it is supposed that the patterns from which they were taken were the animals and birds of the region.

2. There were also many animal and human images among the Pueblo tribes of the Interior, some of which are worthy of attention; but here also we find the influence of mythology was stronger than the influence of art. The Pueblo tribes worshipped animals and had a great many animal fetiches among them. These animals were supposed to preside over the different portions of the sky. Some of them represented the divinities who presided over the chase. They were called "Game Gods" and "Prey Gods," but were supernatural beings and directed the hunter in his pursuit of game. The human images were of a higher order than the animal fetiches, and sometimes represented a higher order of art, for it was the superstition of the people that the nearer they came to the natural object, the more successful they were with the divinities whom they worshipped.

The human images are worthy of attention for three reasons: First, because they represent humanized divinities which took the place of personal gods in the estimation of the people; second, because they are covered with symbols which represent natural objects, such as the mountains, clouds and lightnings; and third, because some of them are furnished with wings and present a combination of birds and human beings, and may properly

be called eagle men or "man eagles," as Mr. F. H. Cushing has suggested.

It does not seem that art had here reached a high degree of perfection, at least its scope was limited by mythology; yet we find that sculpture in stone had reached about the same stage as the carving in wood had on the Northwest coast. The mythology embodied in these images is, however, far more elaborate than is the art, for this is everywhere present and has an almost infinite amount of details and the greatest variety of representations.

3. The human effigies which are occasionally found among the Mound-Builders of the Mississippi Valley come before us next. These are sometimes found in the shape of effigies, which are raised above the soil and are of gigantic size, varying from twenty to forty feet in length. The size of the effigies show that the people regarded them with great esteem and spent many hours in their erection. These, however, were the product of the mythologies which prevailed, as much as they were the products of the art, though much imitative skill was expended upon them.

An explanation of these images has been given in my work on Emblematic Mounds. It will be seen from that book that they represent the mythology of the Dakotas and Winnebagoes, who were hunters as well as agriculturalists, but who had migrated from the valley of the Ohio and retained the same mythologic system which they held when they were dwelling in that valley. There are, to be sure, no human effigies in the mounds of Ohio, though there are a few bird mounds and animal mounds which represent the same divinities which they continued to worship after reaching their new home. The anti-natural god was called "Heyoka." This god was represented with one leg and with arms upturned and a peaked cap. A representation of this may be found in the effigies and rock inscriptions in the caves of Minnesota and Dakota. These can hardly be called works of art, for whatever skill was exercised upon them was plainly controlled by a mythologic conception, rather than by the skill of the artist, and the imagination ruled the hand more than did the artistic sense.

4. There are pipes in New York and in the Provinces of Canada which bear the human image. These are also more



SCULPTURED STONE PIPE
FROM OHIO.

interesting as mythological representations than as works of art, though there are pipes in the state of Ohio and in Tennessee which represent the human face; some of them with such correctness that they have been regarded as portraits, as the lineaments of the face are very natural and life-like. In a few cases pipes representing female faces are seen. In one the drapery which covered the face shows a grace which is worthy of admiration, the support of the drapery being owing to the bird-shaped ornament worn upon the head of females.

Representations of these pipes may be seen in my work on the Mound-Builders.

5. In the Gulf States there are many representations of the human form. Some of them show considerable artistic taste and ability. One such idol was found in the Etowah Mound; another in a mound on the Ocmulgee River. Mr. Clarence Moore has found many pieces of pottery which have the human shape. All of these show that the art of the Southern Mound-Builders was more highly developed than elsewhere. There were carved images in the so-called "Dead-houses" which the Spanish soldiers, who were accompanying De Soto in his famous journey, saw. These were in threatening attitudes and were designed to be guardians of the bodies which were preserved; they showed considerable skill in the art of carving wood.



TLALOC, GOD OF WATER.

6. In the West India Islands objects carved in stone have been frequently found—these are called "Zemes." They are mythologic creatures, which were supposed to represent the divinities of the islands. Some of them are represented as lying flat upon the face and bearing upon their back great mountains which slope to a peak, reminding us of the story of Atlas, who bore the mountain upon his back, and suggest the idea that parts of America may have been discovered in pre-Columbian times.

7. There are in Mexico many specimens which show the influence of mythology upon the prehistoric art. Among these may be mentioned the figure of Tlaloc, the God of Water, shown in the above cut. There are in the museum certain figures of a recumbent god, which is by some regarded as the God of Water, and by others as the God of Wine. The most interesting is the sculptured altar in the form of a bear, with glaring eyes and an open receptacle in the back. This was

recently discovered several feet below the surface of one of the streets in the City of Mexico.

8. A beautiful specimen of art has been recently found at Copan. It was connected with the so-called Hieroglyphic Stairway, and represents a female in a recumbent attitude. In contrast to it are the horrid jaws of some monstrous animal, which projected from the same stairway above it.

The best specimens of human images are those which represent the kings and queens who ruled over the cities of Central America, especially those at Copan and Palenque.* There is this peculiarity about the images discovered here, viz., that there are altars in front of them, suggesting the idea that the images really represented deified kings, and that sacrifices



SCULPTURED FIGURE IN HIEROGLYPHIC STAIRWAY.

were offered to them. This is the explanation which we have given in the work on Myths and Symbols, yet there are those who claim that they represent divinities, instead of kings, among whom may be mentioned Mr. Teobert Maler, who discovered many sculptured slabs in the Umasin la Valley, on which were groups of figures more elaborately dressed even than are those at Palenque and Copan. These sculptured slabs may be regarded as real works of art, for the figures on them are highly wrought and the details are carefully carried out, even the most minute parts of the dress, including the feathers and ornaments. There are no specimens of art in America which exceed these in finish or in skill.

* See "Ancient Monuments and Ruined Cities," pages 388, 427 and 433.

9. Idols have been found on the Island of Zapeteca—seventeen in number. There was in the series, one image situated upon a solid rock cut from black basalt. It was about nine feet high and eighteen feet in diameter. The head of the human figure surmounts it, making a cross out of the column. Another figure is in the shape of a huge tiger, eight feet high, seated on a pedestal. One statue is twelve feet high, the well-carved head of a monster surmounts the head of a human form. Another figure represents a crouching human form, on whose back is a tiger grasping the head in its jaws.

Other idols have been found at Pensacola, one of the group of islands in Lake Nicaragua. One of these represents an animal clinging to the back of a human being. Mr. Squiers says of it: "I have never seen a statue which conveyed so forcibly the idea of power and strength." Still another represents a hideous monster with tongue hanging out, large ears, and distended mouth, "like some grey monster just emerging at the bidding of an unholy priest."

Other statues have been described by Mr. Boyle, who divided them into two classes; the first of which includes idols with fierce and distorted features, often found near graves; the second is composed of portrait statues, always distinguished by "closed eyes and a calm, simple, human air about the features." Mr. Squiers noticed a general resemblance between the Nicaraguan statues, and at the same time a marked individuality, and deems it possible to identify many of them with the gods of the Mexican Pantheon. One huge monolith has a cross on the breast; another wears on its head an ornamented coronet, resembling a circlet, with a cross on the left shoulder and a richly carved belt. The symbolism on these statues is certainly worthy of notice.

10. There are many other localities where human images are to be seen, but the large majority of them are covered with signs which shows that they were mythologic creations. Among these we may mention the remarkable figure which was sculptured over the entrance to the cemetery at Cuzco. Taken together we conclude that they teach more concerning the mythology than they do the native art, and yet their geographical distribution is very significant. The most interesting fact that these different objects teach in their geographical distribution is that the human images and other works of art in the lands of the East are in the chronological succession—two series corresponding in their testimony as to the combination of mythology with art during its early stages.

11. We are to notice that the character of art is always effected by the people and the material of the locality, as there was very little transportation of the material, and all articles were made out of the material which was nearest at hand.

Those that are constructed out of wood largely preponder-

ate on the Northwest coast, those constructed out of lava preponderate in the desert region of the interior, those constructed from clay and rude stone and shells preponderate in the Mississippi Valley, while the specimens of sculptured stone are brought from the regions of the Southwest. Mr. Mason has spoken of the different colors which prevail, and holds that from these may be recognized in the museums the specimens which have come from different districts, as the material which abounded in these districts differed so much that one color would preponderate in one district, and another in another, so that the geographical district could be recognized even without the labels.

Mr. Holmes has also made a map of the ethnographical districts which are represented in the museums, and has spoken



SCULPTURED IMAGE OVER GATEWAY AT CUZCO.

of the character of the tribes which come from each district. (1) The district about Baffin's Bay he calls the Eastern and Middle Esquimaux; (2) the region on Behring Straits, the Western Esquimaux; (3) the region on the McKenzie River, the Tinneh; (4) that on the Northwest coast, the Thlinkit; (5) that on Columbia River, the Chinook; (6) the California area, the Klamath; (7) the great basin of Salt Lake, the Bannock and the Ute; (8) that on the Colorado River, the Pueblo

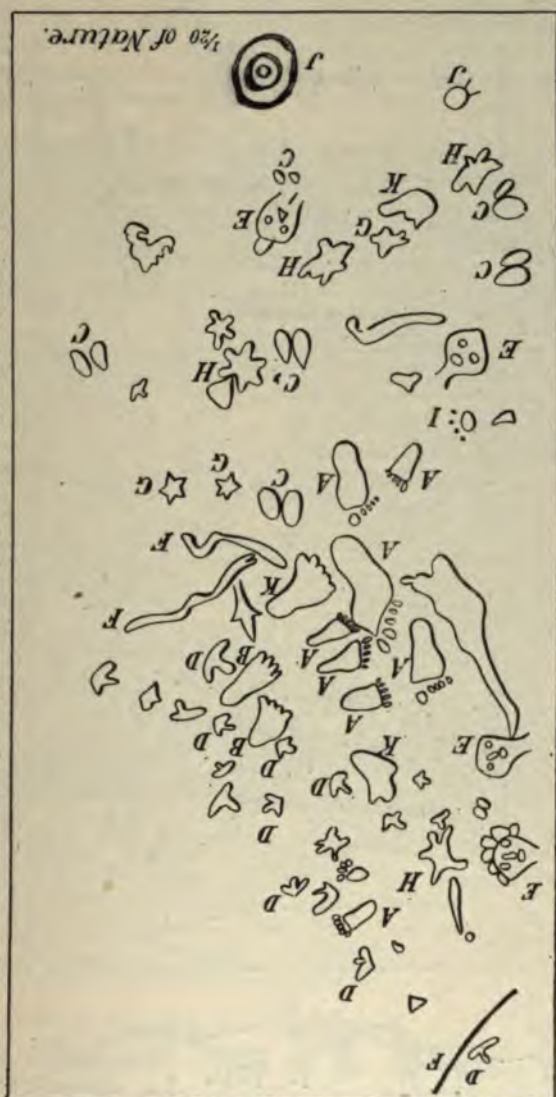
and Apache; (9) that on the Great Plains, the Blackfoot and Kiowa; (10) that on the Great Lakes, the Chippewa and Iroquois; (11) the South Atlantic district and Gulf coast, the Seminole and Choctaw; (12) the Arkansas and Texas area, the Wichita and Caddo; (13) Northeast Mexico, the Coahuiltec; (14) on the Sonora, the Mohave; (15) in Central Mexico, the Aztec and the Otomi; (16) South Mexico, the Tapohecnixtec; (17) Costa Rica and the Isthmus, the Mosquito Chibcha; (18) West India, the Carib. Thus different districts of art have been recognized and ascribed to different tribes. The characteristic of each have been so plainly marked by the people who dwelt in them, that they can be recognized and even their limits fairly well defined.

This map was based upon the location of the Indian tribes since the opening of history, and is really an ethnographic map, rather than an archæological map, and yet it fairly well represents the archæological character of the districts. It deals exclusively with the native ethnology, without regard to the European culture which has been superimposed. Let us examine the two northernmost districts and notice the contrast: In the first the people go to sea in boats made of skin; in the second, they made the boats of tree trunks which are beautifully carved and painted. In the first the people live in houses made of snow and whalebone; in the second, they are made of hemlock and are bound with bands upon which wonderful totem poles are sculptured. In the first the people wear skins; in the second, woven garments made of wool, and sometimes cotton. In one the utensils are made of shell; in the other, they are made of wood and are carved into various shapes. The people have transferred their skill in carving out of stone and are respectable sculptors, though their art is confined to smaller articles, and their carving is expended on the great totem poles.

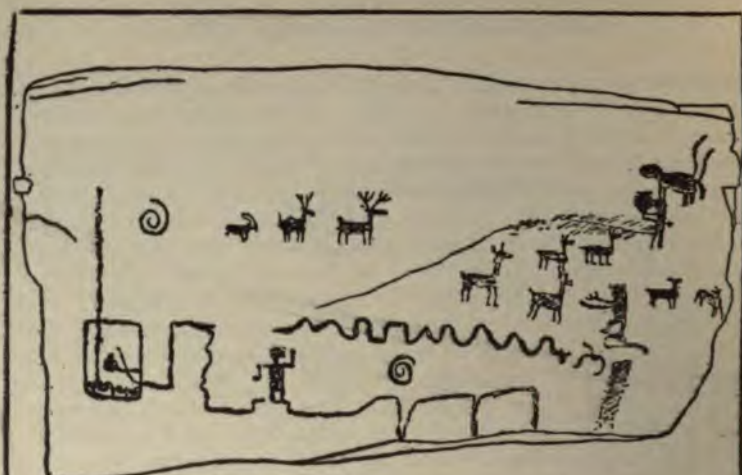
III. The graphic arts—picture-writing, symbolic figures and hieroglyphs—are all represented on this continent, but with varying degrees of excellence. It may be said that the Esquimeaux were skillful in etching, for there are many specimens of walrus bones on which are sketched pictures of houses, tents, animals, human beings, and mythologic monsters, the shamans having a prominent position. In these we may read the mythology of the people. There are also among the wild hunter tribes many specimens of sketching which show very considerable skill. These specimens are not confined to any one district, but are scattered over the entire continent.

1. There was considerable skill exercised in pecking human figures and animals and foot prints upon the rocks. Very curious specimens are found throughout the Mississippi Valley, but their object remains a mystery and the people who made them are still unknown. The rocks of Arizona and Colorado are also covered with pictographs and symbols which are suggestive of the habits of the people. We learn from them

ROCK-PECKED PICTURES FROM THE MOUND-BUILDERS' REGION.



The rock-peckings found in the Mound-Builders' territory represent the lowest form of the graphic art; lower even than the pictographs found in the caves of Europe now, and lower than the pictographs of Arizona. The higher stages of the graphic art may be seen in the sand paintings of the Navajos and in the altar decorations of the Zunis; a still higher in the calendar stone of Mexico, and the highest in the hieroglyphics of Central America.



Rock inscription, representing, it is supposed, vicuña-like animals and bola-thrower, woaden deer and other animals.



FIG. 17.—Rock inscription thought to represent vicuña-like animals and man throwing bola.



FIG. 18.—Rock inscription of supposed bola-thrower, dancing men, and other objects.

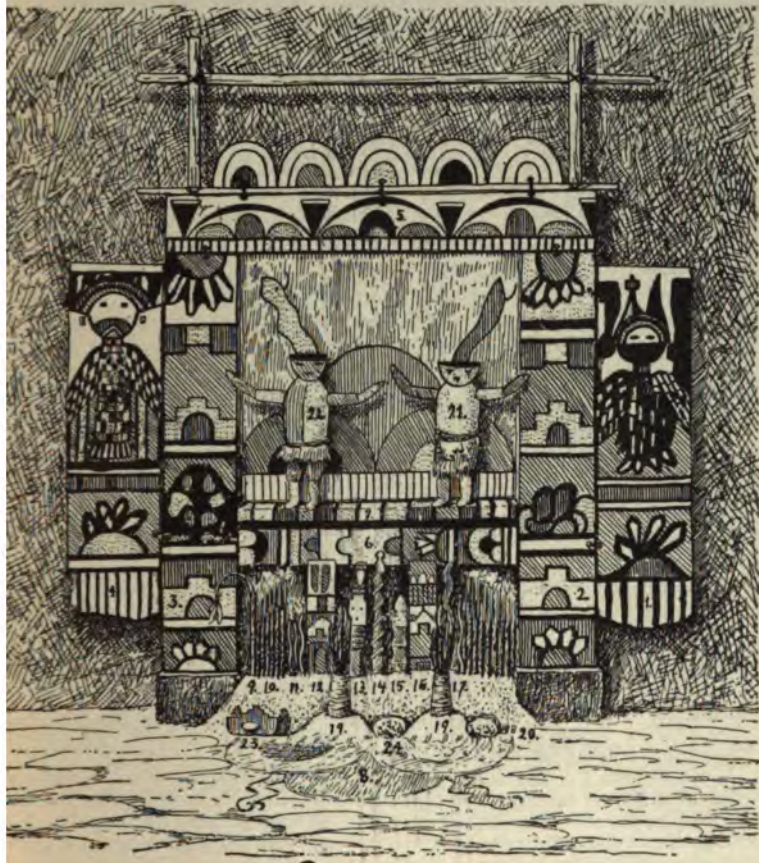


FIG. 20.—Rock inscription of vicuña-like animals and hunter.

PICTOGRAPHS IN ARIZONA.

that there were at one time hunters who used the lasso, and that there were animals resembling the lama. There are also rock inscriptions on the cliffs of Arizona which show that the Cliff-Dwellers were skilled in this department, and that they were acquainted with all the different symbols which all the more civilized people are in the habit of using.

The best specimens of the graphic art, however, are to be found among the Pueblo and Navajo tribes and among the



EMBLEMS OF THE NATURE DIVINITIES.

Maya tribes of the Southwest. Among the first we find an extensive system of symbolism, and among the last, hieroglyphics, by means of which they conveyed thought, especially of a religious nature.

There was no writing, engraving or printing, such as bounded in historic countries, and yet there was a great skill in drawing figures which should carry thought; so that sym-

bolic writing may be truthfully ascribed to the people, and become suggestive of religious thought—the dances always coming at certain periods indicated by the position of the stars. Now, we have only to go from this region to that in which the calendar stone and the codices are found to realize the progress which occurred. It matters not whether the hieroglyphics were introduced or grew, the lesson is the same. It was by the "scenic art" and by symbolism that thought took its onward course. This continent contains a remarkable record, but one which has not yet been understood, and the lesson is before us as we look at the symbols.

The codices are very curious specimens, and show a stage of art which is worthy of admiration. These form a connecting link between the pictographs of the wild tribes of America and the hieroglyphics of Egypt, but they show a stage of the graphic art which is not found elsewhere.

IV. This is but a brief review of the distribution of art through the two continents of America, and yet it is enough to illustrate an important point.

The question of the introduction of hieroglyphics is a subject which is much more difficult to treat than is the geographical distribution. All that we can do is to separate the prehistoric from the historic, and then draw a comparison between the objects found on this continent and those in the countries of the far East. There may, indeed, have been works of art in the early ages, which were wrought out by people whose history is unknown, but it has been thus far impossible to identify the horizons, and so we have to take the works as they were presented at the time of the Discovery, without giving any particular date to them. There are, to be sure, those who think they recognize chronological horizons which commence with the Paleolithic Age, and pass on through the Neolithic Age to the Bronze Age, the same as are found in Europe; but the majority are content with identifying all as belonging to one "age," and yet with varying degrees of excellence according to locality. Such is the attitude of most of the archæologists, who have examined these specimens. Mr. W. H. Holmes says:

We are told by the early Greek historians that a broad continent known as Atlantis was once spread out over what is now known as the Atlantic Ocean, and was inhabited by a vigorous people. It has been a favorite theory with students, that many races may have been derived from this source, inheriting a strange new culture, now represented by so many ruined cities. Whatever may be the truth with respect to the disappearance of one continent, it is a curious fact that another has arisen from the watery bed.

We are able to show by geology that a large part of terra firma known as Yucatan, the massive bed of limestone of which the peninsula is formed, contains the marine forms of life now flourishing along the shores. Though soil has gradually formed on the rocky plains and dense forests have overspread all, there is always present the waterless and forbidding desert. Into this strange new land, some thousands or more years ago, pioneers of the red race gradually found their way and built themselves habitations. They prospered and multiplied, being largely free from in-

trusions from without; went on from century to century building and developing the stone shaping arts, until every great well or group of wells was encircled with temples or palaces, grand in proportions.

Mystic wise men—culture heroes—appeared to instruct the people in arts and in religion. The conditions under which the middle and southern branches of the family developed were different in many respects from the north, and as a result there were marked distinctions in the people and their culture, but when the disaster which signified the close of the Maya power came, all were alike involved.

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Comparative peace prevailed for a long period and the various communities seemed welded together in a strong and rapid union, but the many centuries of culture and power seemed to have led to jealousies and feuds, a few decades before the coming of Columbus.

* * * * *

In the culture scale this people stood at the head of the American tribes. They were still, properly speaking, barbarians, but still seemed on the threshold of civilization. Their status may be compared to the Greeks and Egyptians immediately preceding the dawn of history, and we may assume that they were, as measured by Aryan rates of progress, perhaps not more than a few thousand years behind the foremost nations of the world in the great procession of races from savagery toward enlightenment.

It is certain that they were already employing a rude system of historic records, and were the only nation on the Western continent that had made any considerable headway in the development of a phonetic system of writing. Their hieroglyphics occupy a place not yet well defined somewhere along the course of progress from pictograph to letter, and are consequently difficult of interpretation. There is no doubt, however, that an age of literature was actually dawning, though slowly dawning, in America when the shock of conquest came.

V. We turn now to the personal decorations. There are ornamental features even in the mocassins which are worn by the Arapahoes at the present time, and every tribe has its own style of decorating the person and dress. The historians of the DeSoto expedition describe the dress of the tribes which were then situated in the Gulf States; Catlin described the ornaments and the dress of the Dakota tribes on the Missouri River; DeBry and the artist Wyeth describe the costumes and habits of the Powhattan tribes and the natives of Florida; McKinney described the appearance of the Northern tribes. Many travellers since their day have described the appearance of the wild tribes of the Northwest coast, and the Spanish historians have furnished a picture of the Pueblo tribes. From these and from other sources we learn that there was a very considerable similarity in the costumes of the wild tribes, though the material which was used varied according to the locality. The northern tribes dressed mainly in furs; the southern tribes, in garments made of vegetable fibre; the Pueblo tribes, in cotton, which was raised and manufactured in their own country, while the tribes of the Southwest were decorated in costumes which were wrought out of a great variety of fibre, and were covered with jewels and precious stones, the taste for jewelry and for highly-colored garments being almost a passion among this people.

The impression formed after examining the various costumes is, that there is a very striking resemblance to that which comes to us from the far East, and we can realize why it was that Columbus, when he discovered the continent, gave the name of Indians to the inhabitants, for he really believed that they were East Indians, inasmuch as their costumes and their



AN EAGLE INDIAN
(AMAZON)

weapons and tools, and even their pottery and their carved implements were very similar.

The styles of the Indians, especially those who are remote from the abodes of the white men, remain essentially unchanged, and we learn from examining the specimens placed in the museums that there was a great love of color among the people, and many of the more delicate shades were in use.

as among the so-called civilized races of the Central es the most magnificent display of costumes. The as true of the people in Peru. This has been con- y the opening of the graves in the province of Ancon, mining the fabrics which covered the bodies of those who were buried. Whether the Indians understood the art of dyeing, the Knight of Elvas seems to have had no doubt about the matter. He says of the southern Indians:

Give them what color they list, so perfect, that if it be red, it seemeth a very piece of cloth and grain, and the black is fine; they dye their mantles in the same color.*

Capt. Smith says:

We have seen some mantles made of turkey feathers, so prettily wrought and woven with threads, that nothing could be discerned but the feathers, that was exceeding warm and very handsome.†

Adair says:

They twist the inner end of the feathers very fast into a strong double thread of hemp, or the inner bark of the mulberry tree, of the size and strength of coarse twine, as the fibres are sufficiently fine, and they hook it, in the manner of netting.

Verazzano found the people clad with the feathers of fowls of divers colors, and Roger Williams says the Indians of Massachusetts made coats or mantles of the feathers of their turkeys. The skins of rabbits, muskrats, the inner bark of the mulberry tree, were woven or quilted into cloaks; the hair of the beaver or opossum was spun, and the Indians of the Illinois makes robes of threads of sinew. The Cliff-Dwellers



SCULPTURED SLAB.

ments into which were woven the hair of rabbits or animals. The material woven from grass was like the fly-nets with which we protect horses. The

articles of dress were as follows: leggings, moccasins, a sort of shirt or jacket without arms, and a robe, sometimes made of the skin of a bear or moose, or other large animal. Besides stockings and shoes of deer skin, there was a sort of cloth made of leaves of corn fettered together, which the Mohawks wore. A tunic was worn by the Hurons, Iroquois, and other tribes,



WOVEN FABRIC.

which hung down to the knees; the rest of the body, including the arms and head, was naked. The women wore no skirt but a little short waistcoat, usually made of cloth and decorated with beads. They covered themselves with mantles, put on about them from the waist downward, with one arm out like the Egyptians. The men wore a mantle from one shoulder, after the same manner. Sashes belts and garters were worn by nearly

all the tribes; some of them woven of finest patterns. Of shell beads and shell work there are many specimens in the museums.

The habit of tatooing the person and the art of making pictures on the living flesh prevailed. In Virginia, the whole body was commonly covered with these marks, but farther north, with a few figures of birds, serpents, or other animals, without order or symmetry. The best specimens of decorative art are found among the Pueblo tribes, and especially among the Navajos.

The Pueblo tribes, as well as the Cliff-Dwellers, exercised a great deal of skill and taste in house decoration and clad themselves in a becoming manner. They had a peculiar way of arranging their hair so as to make large projecting rolls on either side of the head. The women always left one arm outside of the mantle.

The textile arts might admit of the geographical division. for basketry, woven garments, the products of the loom, sewing and netting appliances are mainly found where fibre suitable for weaving abounds. The sculptured art abounds where the material is most suitable. The carving in wood prevails, as we have said, on the Northwest coast; the carving in stone in the region of the Mississippi Valley, but it reached its highest development in the Southwest region, in which the stone is easily wrought into shapes, though the coarseness of material did not admit of the finer lines, which a true artist always delights in. The plastic art was lacking altogether from the Northern regions, but prevailed in all other parts of the conti-

ment. It reached its highest perfection in Peru, for here the most beautiful vases are found, which excell even in beautiful grace those found in Central America, though in this region there is much taste manifested.

The pottery which was common among the native tribes is worthy of special attention. We have already spoken of that which prevailed among the Canadian tribes. Mr.



WOVEN BELTS.

Clarence Moore, General Thruston, Mr. W. H. Holmes, and many others have described the pottery found in the Stone Graves and Gulf States. The pottery found among the Cliff-Dwellers and Pueblos has been described by Mr. Walter Fewkes and others. Here the pottery is of different kinds; the white and black is supposed to be the oldest, though many specimens have been taken from the graves which present dif-



PATTERNS OF CLOTH SHOWN BY POTTERY.

ferent colors. The patterns on the pottery vessels were mainly derived from mythology, and represent mountains and clouds and various objects of nature.

It was in the department of pottery that the art of the natives had its freest scope. Specimens of pottery are found in all the museums, and represent the taste for art as very common among all the tribes of the two continents, though in

the far North the taste expends itself upon wood and other materials, but elsewhere it exhibits itself in the moulding of clay. We have not space enough to describe these specimens,



PERUVIAN POTTERY.

or even to mention the patterns found upon them; all that we can say, is that pottery has the greatest variety of ornamentation. The most beautiful specimens are those which are moulded into animal and human forms. The most beautiful specimens of the Cliff-Dwellers are those which present symbols which are derived from the shape of the mountains and other natural objects of the region. The most beautiful in Peru are those which represent the human face.

The ethnography of art is more finely illustrated by the specimens of pottery which have been gathered from the various parts of the two continents, than by any other means. One reason for this is that pottery is easily worked, is very abundant and takes upon itself all kinds of ornaments; it can be painted and moulded, twisted and decorated in almost every way; it yields itself to affection and can be made to



PUEBLO POTTERY.

represent the features of the departed, in the form of masks. It also serves the religious nature, and admits of all the symbolic forms which religion requires; what is more, it lifts religion itself into greater heights, so that even mountains, trees, waterfalls, and streams, as well as craggs and caves may be represented. The inner life is sometimes depicted, the vessel itself is supposed to contain a soul, and the lines upon

the surface of the vessel are left open, so that the soul may depart and not be confined.

One great advantage coming from the study of prehistoric pottery is that we learn not only about the animals which existed and the peculiar style of representing them, but we learn also about the appearance of the human beings and the form of their dress. Especially of the official costumes in which they were clad. The study of the cuts will illustrate this point, for in one we see the pattern of the cloth which was used and which was impressed upon a piece of pottery; in another we see the animals which were common among the Pueblos, and the special manner of representing them with a line leading from the mouth to the heart. The ornaments about the animals contain a combina-



PUEBLO POTTERY.



POTTERY FIGURE FROM PERU.

tion of mythologic figures and conventional patterns. In two other cuts representing the pottery vessels from Peru, we see the peculiar costumes in which the priests and queens were dressed; the very patterns of the cloth being shown by the rings and stripes upon the pottery. Pottery was common also in Peru which represents the form of the houses and the peculiar style in which they were built.

VI. Personal ornaments were common among the prehistoric races of America. Jewelry was worn by the women in Egypt, and jewels were often worn for their talismanic and magical significance. The Florida Indians at the time of the Discovery weighted their ears with pendants, so that they hung down over their shoulders. The gorgets of engraved shells; bosses of metal; spool ornaments, so-called, from which hung the plumage of birds, and other

articles, have been found in the mounds of Ohio and the Stone Graves of Tennessee in great numbers. Necklaces of bear claws and the mandibles of birds, and the anklets of deer

hoofs were worn as ornaments by the men in their dances, as has been shown by Miss Fletcher. Ornaments were considered of more importance than dress among the natives of the South Sea Islands. Beads of pearl, precious stones and jewelry were used by the women, but feathers and belts and woven articles were worn by both sexes. The distinction between the ornaments worn by the two sexes was much less marked than among the whites. One could scarcely tell from finding an ornament whether it was used by a man or a women, though as a general thing the more gorgeous and conspicuous objects were worn by the men; even deer horns and waving plumes were worn upon their heads to make them more conspicuous.

There was a custom among the Choctaws of planting over the graves, poles from four to twelve feet high, and fastening grape vine hoops to them; the lowest hoop about two feet from the ground, the others at different heights, with streamers of white cloth fastened to the hoops. They were simple ornaments, though Col. Clayton calls them a spirit ladder. The six men appointed are called pole planters, and are appointed from each clan.

The deposits which were made in the grave itself were generally from the hands of women, and consisted of the more delicate tokens of affection, rather than those designed for display. The author has discovered in graves long strings of beads made of shell, strung about the neck of a child, the child's head resting upon the arms of the mother. In other places he has found pottery vessels filled with sweetmeats, near the head of the child, and yet it is the testimony of the historians attending De Soto in his expedition that large chests full of woven garments were found in the dead houses. In front of them the carved images, in the midst of them vast numbers of pearls, showing the custom was as com-



POTTERY FIGURE FROM PERU.

mon among women as among men. Prof. Haddon divides the requirements of men into four parts—art, religion, information and wealth,—and places art first. Many ethnological questions come up in connection with these ornaments, but the geography of art helps us to answer them.

Perforated stones were also used as ornaments, these were placed upon ceremonial staffs which had a bunch of feathers



FIG. 5.—Map of North America, indicating in a general way the geo-ethnic provinces.

at the top, and were pointed at the lower end; they were common in New Guinea, but were used also in California. A number of these stones were discovered by Dr. Stephen Bowers attached to the handles, and furnish an explanation of the perforated stones in the region.

The staff was a badge of authority among the savages. Col. Lane Savage states that many of the clubs are constructed for ornamental and state purposes, and Mr. H. R. Schoolcraft states that the clubs exhibited at the war dance, or for other use, are always larger than those intended for practical use, and partake practically of a symbolical character. Dr. Stephen Bowers states that the perforated stones vary from a half dollar in size to fifteen inches. Chunkey stones were in use among the eastern Indians, as well as among the California tribes.

VII. Jewelry was in quite common use throughout both continents of America. Grotesque human figures, in pure gold and copper, or plated with gold, have been described by Mr. W. H. Holmes. Figures of frogs in base metal, plated with gold, are also common. Grotesque figures having the human form carved in the round, were used in a stool made of clay; they have also been described by Mr. Holmes. These figures reveal considerable skill in the art of moulding and carving in stone, but show a taste for grotesque and hideous objects.

The cut represents the jewelry which was common on the Northwest coast. These are decorated with the claws of the bear, showing that even jewelry was covered with mythologic figures.

There are many specimens of jewelry in the province of Chiriqui; these are also very curious, but they represent the mingling of mythologic ideas with their art.

The jewelry of the primeval inhabitants had an emblematic meaning and was regarded as having potent charms, capable of guarding and protecting the owners; the work was very skillfully done.*

A large number of other objects of stone and terra cotta have been gathered from Teotihuacan and other sites in Mexico, and are very curious, though their objects are unknown. They may have been used as portraits, or they may have been used for ceremonial purposes.



JEWELRY FROM NORTHWEST COAST.

* See pamphlet "Use of Gold and Other Metals," by W. H. Holmes, in Report of Bureau of Ethnology, Washington, D. C.

VIII. The basketry is worthy of attention. Many writers have treated this subject, among them are Prof. Otis Mason and Mr. W. H. Holmes. The best specimens are those found in California. Dr. Holmes says Southern California has much to interest the student of archæology.

The Tulares are among the most expert of basket makers; they are a rude people, but have had contact with the whites; they employ mortars, which they are skillful in working into graceful forms, but their taste is mainly exercised in their basketry. There are many specimens of bottle-shaped baskets in the market, and they are quite common. The bowl-shaped baskets are decorated with the human form, but have conventional figures. Three winnowing baskets, a low flat-top bottle



BASKET FROM SOUTHERN CALIFORNIA.

and gambling trays have been described by Dr. Holmes, who also succeeded in obtaining a ceremonial costume, consisting of a feathered headdress, ear ornaments, thorn needles, and other items. The primitive skirt made of long strands, upon which were strung mats and beads; decorative bone implements and peculiar obsidian knives, supposed to be used in bleeding, were secured. Among the pendant ornaments were those of Abalone shell.

The feathered decorated baskets of the Pomo Indians of California are noticeable for their graceful shapes, as well as ornamentation. The carrying baskets resemble those common in the region.

IX. Musical instruments were somewhat common in America in prehistoric times, the best specimens of which were found in Peru. In the study of the musical instruments

the study of the pottery of the Peruvians is important, for from the pottery found in the ancient tombs we derive most of our knowledge. The drum appears to be identical with those in use in Peru to-day. Two forms of drum are shown in the pottery. Copper bells resembling our sleigh bells appear to be in common use here, as in Mexico; also various forms of rattles, these were attached to the wrists and other parts of the body in dancing; a curious flute of stone, which was quite elaborately ornamented; bone flutes were in use, they had six holes. A musical water-bottle, a double whistling jar, and a gold ornament representing a person blowing through a trumpet, have been found; also pottery whistles, a pan pipe, and a musical bow. There was very little known of the musical scale, though there are some things used to indicate the five-toned scale. Musical instruments were also used in Central America, as can be seen by the examination of the statues in Costa Rica.

The examination of graves in Costa Rica has brought to light many idols, which represent the flute players in various attitudes. The discoveries made in the graves at Ancona, Peru, have also disclosed musical instruments, as well as woven goods and many specimens of pottery. Mr. Holmes' pamphlet on the Chiriqui also contains many representations of musical instruments made of metal.

Less is known of the musical art of the prehistoric people of this continent than almost any other subject, and yet there were musical instruments among all the tribes, for dancing, mourning and religious ceremonies were all conducted under the inspiration of music, and the instruments were sometimes accompanied with the voice. There was the same distinction between the musical instruments of the different districts, as between the other products of art, for the instruments of the Southwest and Peru were quite varied and elaborate, while the wild tribes in the North had scarcely anything but the common flute and drum. It is to be noticed that the stringed instruments were very rare, if used at all. Dr. D. G. Brinton and Prof. Starr have written upon the subject.

NIHANCAN, THE WHITE MAN.

BY C. STANILAND WAKE.

The most curious personage who appears in the traditional stories of the Arapaho Indians is called Nihancan, with reference to whom Dr. A. L. Kroeber has a note ("Origin Myth," No. 3, "Traditions of the Arapaho"), which may be quoted as a fitting prelude to a consideration of his nature. Dr. Kroeber says:

The Nihancan of these traditions is the Algonkin Manabozho, Napi, or Ictinike. He is sometimes named as the creator, but sometimes is not. Some old men say that perhaps Nihancan made the world, but that it is not known who did it. The word is now the ordinary word for white men in Arapaho, just as in Cheyenne the name of the mythical character Vihuk has been applied to the whites. This is in accord with the tendency found elsewhere in America.* Among the Arapaho it may have contributed to a change in the conceptions of the creation, especially as the name Hixtcaba Nihancan, above-white-man, is the Arapaho name for the God of the missionaries. Nihancan means, however, also "spider," and this is no doubt the original signification of the word, just as the Menomini character that corresponds to Nihancan is the rabbit. Among the Dakotas the trickster Unktomi is the spider. Among the Sia the spider, Sûssistinnako, is the creator. The Hopi have a mythological Spider woman, and among the Pima (Grossman, *Smiths. Rep.*, 1871, 407) a spider is the original creator. In none of the Arapaho myths is there the slightest trace of any animal or spider-like qualities attributed to Nihancan. He is entirely human. Apart from the hesitating identification of him with the creator of the world, he is not found as the hero of any serious myths, but always in a ridiculous form and often in obscene tales. He is thus the equivalent of Ictinike and Unktomi, rather than of Napi and Mânâbush. Among the Gros Ventre, where his name is Nixant, he shows somewhat more the character of the creator in combination with that of trickster. . . . The word Nihancan is explained by the Indians as meaning wise or skillful, and again as slender or narrow-bodied in reference to spiders and insects; but both etymologies are uncertain.

The identification of this being with the white man in name, is a remarkable fact, which may have several explanations. Possibly it may be that the natives thought the character ascribed to Nihancan was similar to that exhibited by the whites with whom they came into contact! Or it may have been that the ingenuity and power shown by the whites was thought to be akin to that of Nihancan. Possibly, however, it was simply a question of complexion. There was evidently, according to the stories, something peculiar to Nihancan by which he was readily known. This peculiarity was probably the fairness of his skin, as in the story "Nihancan and the Mice's Sun Dance" (No. 53) he is recognized, while his head is an elk's skull, by his *color*. It should be mentioned that in the Creation Myth

* From Captain W. P. Clark's "Indian Sign Language," it appears that the word applied by the Sioux to the whites formerly meant God. The Cheyenne name for spider is given also to the white man.

of the Arapaho Sun Dance, described by Dr. G. A. Dorsey, land across the ocean is made especially for Nihancan, which would seem to show that this part of the myth was added after the coming of the Europeans.

In studying the character of Nihancan we will first consider him as the Creator. In the story entitled "The Flood, and Origin of the Ceremonial Lodges," after Blue-bird has been brought back to life by his brother Magpie, they meet Nihancan, who goes with them and with Rock, who had a turtle moccasin, to the top of a high mountain to escape the avenging flood. Meeting with Nihancan, is said to be a sign of death, probably because he doomed the people to death, when he threw a stone into the water, for the stone sinks and cannot return. The flood remains high a long time, and Rock sends his moccasin, as a turtle, down to find the earth. The turtle comes up with mud in each of its armpits, and goes down again, first for a short rib and then for a bulrush. Then, it is said, "he sprinkled the earth which the turtle had brought him about the place where he was, and with the rib he pointed in the four directions. As he pointed, the land spread out in those directions to the ends of the earth. Then he pointed above and made the vault of the sky. Now the earth was bare. Then the one with the turtle moccasins made corn from the bulrush. After this, Nihancan lived in the sky and was called our father. After referring to a change of language, the story continues: "And Nihancan gave the Arapaho the middle of the earth to live in, and all others were to live around them." Here the apparent creator is the Rock, he who has the turtle moccasins, but, as in Origin Myth (No. 1) the creator is the Father, probably a confusion has been made in the narrative between the Rock and Nihancan. In a legend cited by Dr. Kroeber (Myth No. 3, note 6) the whole of the creation incident is ascribed to Nihancan, ending with the statement that he "also made the rivers, the streams and the mountains." This is exactly the rôle ascribed to him in the Creation Myth given by Dr. G. A. Dorsey in his "Arapaho Sun Dance." After the Man has created the land and placed the mountains and rivers, Nihancan appears on the scene, and asks for power to motion for mountains and rivers. He was told to do so, and then "he lifted his staff and motioned in every direction, forming hills and creeks of all sizes." This may have been the limit of his creative power,* but it is possible also that Nihancan may have been the "Father with the Flat Pipe" of the other Origin Myths, particularly if, as is not improbable, we are to understand by Flat Pipe the sexual organs.

If Nihancan was not the real creator of Arapaho myth, he was at least regarded as the giver of death. In the Sun Dance

*The Absaraka, or Crow Indians, as shown by the stories collected by Mr. S. C. Simms, identify their creator with "Old Man Coyote," who on earth is very similar in character to Nihancan.

Myth, the "Man," who is accredited with creation, throws into the water some cottonwood pith, which comes again to the surface, and says: "This is the way all you people shall live on the earth." Nihancan steps up to the Man and asks if he may say a word relative to the life hereafter. His request being granted, he said the earth was not very large and if the people increased rapidly there might not be room for them. He then threw a pebble into the water and it sank for good. He then said: "That is the way life should be hereafter," and this was endorsed by the creating Man. Such, also, is the origin of death given in the "Traditions of the Arapaho," and, as mentioned above, to meet Nihancan was regarded as a sign of death. It appears, indeed, to have been fatal to many beings, according to the stories. He kills animals by wholesale, not as a huntsman, but through trickery. Usually he induces birds to dance to his singing, with their eyes shut, and then he strikes them on the head with a club. A similar fate awaits the beavers which, at his suggestion, leave their old home for a new one. He induces a herd of elk to run a race with him, and causes them to fall over a high cliff. He sends the bear women to gather flowers, offering to take care of their children, whom he kills, putting their bodies into the kettle to boil and their heads back into the cradles. The bear women chase him, but he inveigles them into a tunnel, where he suffocates them, and then cooks their bodies for food. Nihancan is equally regardless of *human* life. He induces a man to climb a high peak to take some young eagles, and while the man is climbing he commands the peak to increase in height, which it does and becomes so high that the man cannot descend. Nihancan then takes the man's clothes and weapons and assumes the position of husband to the man's wife. After some time the man is rescued by some geese, and then he goes home and kills Nihancan, who, however, comes to life again. After this, is introduced the incident of his throwing a pebble into water to see whether the people would live forever or die. In another case, Nihancan is said to have caused a tree to stretch upwards, so that Rec-Stick-Man could not descend. He then dressed himself in the youth's clothes and took his lance, personating him and marrying his intended wife. (See "Nihancan and the Seven Sisters.") As Father Above, on the other hand, he is represented, in "The Flood and Origin of the Ceremonial Lodges," as comforting a murderer by sending him buffalo and instructing him in the ceremonies of the lodges to give to the people.

One of the chief characteristics of Nihancan is his sensuality. This forms the subject of many of the Arapaho stories. To be able to gratify his sensual instinct he adopts all sorts of expedients, the invention of which shows the fertility of the native imagination, no less than the gross sensuality of his nature. He makes use of animals to accomplish his pur-

pose; disguises himself as a woman; pretends to be dead that in disguise he may act the part of a husband with his own daughter, and adopts other methods too disgusting to be mentioned. Deception enters into most of these cases, and this forms one of the most general features of Nihancan's character. He is, indeed, the great deceiver and, like another similar character, the "father of lies," may be said to go about "like a roaring lion seeking whom he may devour." Animals show their superiority to him by their trusting nature, which he makes use of to induce them to dance, to run a race, or to change their abode that he may kill them, which he does recklessly and without regard to his own need of food. He has a contest in cunning, that is, deceit, with the coyote, the animal with whom the Old Man creator is identified in Crow legend. Nihancan transforms himself into various animals and lays himself in the coyote's path, but he is always detected. The coyote then transforms himself into a woman, who again becomes a coyote and runs away when Nihancan seizes her and throws her on the ground.

One of the cases which shows best the evil disposition of Nihancan, is that related in the story of "Nihancan pursued by the Rolling Stone." The stone having been insulted by Nihancan, pursues him and rolls on him, pressing him down. It becomes heavier and heavier, and he calls on birds and animals to come to his rescue. A hawk kills itself in trying to break the stone, but the bull-bat is more successful and releases Nihancan, who expresses his gratitude and tells it to come and be kissed. The bull-bat does so, and Nihancan seizes its head and stretches its mouth wide open, saying it was for breaking the stone in pieces! Although so cunning, Nihancan is easily over-reached, especially by the coyote and by women, who, knowing his character, take pleasure in deceiving him. In the story of "Nihancan and the Mice's Sun Dance" (No. 53) he gets his head fastened in an ox skull and thus floats down a river. He is rescued by some women, who allow him to rest his head on their knees. In this position he goes to sleep, and they fill his hair with cockle-burs and then leave him. This incident forms the subject also of the story "Nihancan Cuts His Hair," which he does to get rid of the burrs.

We have seen that Nihancan is deceived as well as deceiver, and foolishness may be regarded as one of his characteristics. He amuses himself by rolling against magic arrows which open, when stuck in the ground in a row, to let him through. He does this too often, and finally he becomes impaled on the arrows. He sees a man who has the power of throwing his eyes up into a tree and bringing them back again. The man transfers the power to him, but says he is to do it only four times in succession. He takes no heed of this condition and his eyes stick to the tree. To recover them, he borrows the eyes of a mole, which has been blind ever since, as Nihancan

threw its eyes away when he had done with them. His foolishness is shown especially in his attempts to imitate the exploits performed by great medicine men. When a man brought food down from above with which to entertain Nihancan, he invited the man to come and witness the same thing. He then told his children to drop their bags of food in front of the hut, when he called for food. He called but the food did not come, and Nihancan found that his children had all gone to sleep!

In some of these stories Nihancan's ingratitude is a prominent feature, but we will leave this and consider another leading characteristic to be ascribed to him, that of possessing occult power. In the stories which speak of his attempts to imitate the actions of medicine men he is represented as signally failing, but in the stories "Nihancan usurps a Father's Place" and "Nihancan and the Seven Sisters," he is accredited with power of a peculiar nature. In the former of these stories he causes a mountain peak to increase its height to prevent a man from descending, and in the other story he causes a tree to grow upwards, with the same object. This feat is performed also by the moon in the story of "The Porcupine and the Woman who Climbed to the Sky," and, although a remarkable one, it would be regarded as a matter of course to the native mind which desired to bring about a particular result. The greatest power ascribed to Nihancan is, of course, that of Creator, a rôle which can hardly be imagined of so despicable and weak a character as he is described as being, although we have his parallel, as we shall see, in Ahriman, the evil creative god of Persian mythology. It is interesting to note that in the stories of some other Indian tribes, the evil being improves in character. This change was due probably to the influence of foreign ideas, introduced by missionaries or other white people, and the improvement must represent that of the native mind itself.

Reference has already been made to the fact that the Arapaho Indians apply the name Nihancan to the whites, and it was suggested that this may have been owing to their complexion. White animals are regarded by the natives of America, as by many other peoples, as having a superiority over similar animals of a different color, and as being sacred. This is shown in the Arapaho story of "The White Buffalo Cow." Before shooting at this animal, the hunter has to tell a war story, and its hide, which is called "sacred," is carried to the high priest's tipi. The Pledger of a Buffalo Lodge is called White-Buffero-Woman in the story of the "Origin of the Buffalo Lodge" (No. 12). In another account of the "Origin of the Buffalo Lodge" (No. 14), a man sees in a vision a number of men and women turn into buffalo and then disappear, except a white cow; and then the dance (lodge) was made the first time, for a woman who had a sick relative. In the Arapaho stories reference is also made to the White Dog, who makes

love to a woman, by whom he has seven puppy children, and who is really the Sun-Man. In "Thunder-Bird and White Owl," the owl is the spirit of the snow storm and the asker of difficult questions; as is also the Owl-Woman in the story of "Raw-Gums and White-Owl-Woman." White Crow is the owner of all the buffalo. He is outwitted by men, however, and not only loses the buffalo, but is turned black through being tied to the top of a tent where the smoke comes out.

The opposition of white to black is well known to the Old World, where it is applied in relation to magic, which is white or black according to whether it is good or bad in its intention, the magical operations being the same in either case. In one of the stories associated with the name of Moses, we are told that the Egyptian conjurors imitated all the feats performed by Moses, whose superiority was finally established through the fact of the serpent, into which his staff had been changed, swallowing the serpent-staff of Jambres. In the two world powers of Zoroastrian cosmogony we have a similar opposition. Ahura Mazda creates the world of light, with the primeval ox from which all other good beings on earth emanate. Thereupon Ahriman creates the world of darkness, with its creatures, and constantly wages war against the creatures of Ahura Mazda, slaying even the sacred primeval ox. There is a close similarity between Nihancan and the Persian god of evil. Both figure as creators, but after the primary creator, except where, as in the case of Nihancan, he is credited with being the only creator. This may be a later view of his work, or it may be that this was the original view, the "Father" idea as distinguished from that of the "Old Man" being a later development. Most probably, however, the notion of two opposing deities in nature, one good and the other evil, which is entertained very generally among uncultured peoples, has influenced the Origin Myths of the Indians. Usually the evil being is the one to attract more especially, the popular mind, although the good being may be recognized in ceremonial cult which has for its object the attainment of some blessing. The fundamental features of the character of Nihancan are undoubtedly those of selfishness and mischief, combined with gross sensuality and deceit, and a spider-like cunning.* In these characters he has much in common with the Satan or Devil of the European Middle Ages, the idea of whom was most probably derived, indirectly, from the Persian evil deity Ahriman. Christianity undoubtedly took over much of the teaching of Zoroaster, which accounts for the intensity of the opposition between Mohammedanism and Christianity during the early centuries of our era.

In Oriental mythology the Spirit of Evil becomes the monster of the deep, the great horned serpent of Christian

* The comparison of Nihancan with the spider, in some if not in all, requires separate treatment.

mythology. A similar creature, although on a smaller scale, occupies an unique position in Arapaho legend. In the story of "Lime Crazy" he is called "Father of Waters," or *hiintchâ-biit*, the great water monster, which is his usual title, and he is represented as horned. In the story of "The Man Who became a Snake," a man eats some snake's eggs and gradually changes until he becomes a big snake, with long body and very large eyes. He goes with his companion to a river and tells him he is going to stay in the deep water against the bank, and then darts into the river. The story of "The Woman and the Monster" gives a good account of the ideas entertained by the Indians of the *hiinchâbiit*. In crossing a stream, a woman is carried away by the water but finds herself on a sand bank, where she sees two men. They take her to their master, the water monster, who appears as a fine young man. He has intercourse with her and then tells her that he is the owner of rivers and lives against the steep banks where the water is deep. He instructs her what offerings the people are to make him in order to cross rivers in safety, calling himself their Grandfather, "Last Child." This snake monster would seem to be regarded as the head of all medicine animals, as he is described as having on each side of him various animals, each with its own medicine bag.

There is nothing in the Arapaho stories by which Nihancan can be identified in any way with the water monster, Last Child, as Satan was with the Great Serpent. They belong, however, to the same order of ideas,* ideas which would seem to have been widely spread in the Old World before the reform of the Persian religion effected by Zoroaster. The old Asiatic devil Shaitan, the prototype of Ahriman, still roves in spirit over the deserts of Central Asia and the Siberian steppes, as the spirit of Nihancan wanders about the American prairies, and it is quite possible that if their lineage were traced they would be found to have a common ancestor. The facts seem to point to the conclusion, that the ideas combined in the Indian traditional stories belong to a culture area which included the greater part of Asia as well as North America, as I have elsewhere pointed out. In the meanwhile, it may be well to cite the note given at the end of Petitot's excellent Monograph on the Déné-Dindjie of the Northwest, where he refers to the astonishment exhibited by the Abbé Fage, on hearing the author speak in this American language, at finding that many of its words were similar to those in Tibetan.

* The influence of these ideas among the natives of North America is shown by their being prevalent over so wide an area and among tribes belonging to different stocks. On this point see paper by Mr. A. F. Chamberlain, entitled "Nanibozhu amongst the Ojibwe, Mississagas and other Algonkin Tribes," published in the "Journal of American Folk-Lore," Vol. IV., p. 193, et seq. See also note by Dr. Alfred L. Kroeber, in "Traditions of the Arapaho," quoted at the beginning of this article.

A PREHISTORIC SCANDINAVIAN SUN CHARIOT.

BY JOSEPH OFFORD.

Last year the antiquarian world was delighted with the news that a unique relic in the shape of a bronze "Chariot of the Sun" had been discovered in Scandinavia, and was placed in the Copenhagen Museum. This valuable piece of ancient art workmanship has now been published with a magnificent quarto-size photographic reproduction, and several smaller plates, by Dr. Sophus Muller, in a monograph entitled "*Solbilledet Fra Trundholm*," and we furnish our readers with an illustration of the chariot and horse complete.

The approximate date of this object can satisfactorily be determined by the style of ornamentation applied to the two sides of the bronze solar disk. It shows that it appertains to the very earliest period of the Bronze Age in northern Europe, and the portion of Seeland, in Denmark, from which it came has already furnished archæologists with many relics of the same civilization. Dr. Sophus Muller is even of the opinion that it was fabricated most probably in the peninsula of Jutland from which it has been disinterred.

If the objects of similar style previously found thereabouts, have also been manufactured there, this view may be correct, but it is, at present, impossible to decide what bronze relics have been made in the localities, near the Baltic, wherein they are preserved, and what have been brought there from Southern Europe, in exchange for amber, or by warriors returning from their raids in North Italy or Thrace.

The style of ornamentation points to the end of the second millenary before the Christian Era, and the chariot was certainly not made more recently than 1000 B. C. All the ornamentation is punched or embossed in the bronze, which has been cast in a mold. There are two thin disks of bronze of equal size, the edges of which are secured all around by a circular band bent over the edge. The ornamentation is not precisely the same on both the half metallic pieces which form the disk. The art concepts in the figures utilized are similar; but their arrangement is altered, probably merely for variety and to indicate the skill of the artist. One side, moreover, is covered, after the ornamentation had been applied to the bronze, by a thin leaf or plate of gold. It would appear as if the whole object was intended to be placed in some shrine, and visible from one side only, and, as gold was of extreme value, that side only was gilt. It may have stood upon an altar, or pedestal, facing a window, or orifice, of small dimensions looking eastward, with the gilded side of the disk in that direction,

so that the rays of the sun, perhaps at sunrise, would impinge upon the gilded disk.

The relic itself is much damaged, being broken up into numerous fragments, and from the manner in which these were found deposited in the peaty soil at Trundholm, archæologists unanimously agree it was purposely broken; for instance, the gold plaque is torn into about twenty strips. The missing fragments have been searched for in vain all around, and so, from one cause or another, were not placed with the remnants that have now been secured. The fractures of the bronze portions are, in the case of some of the very fragile parts, caused by the natural disintegration of the metal; but that does not explain the breaking of the castings where they are compara-



BRONZE SUN IMAGE, FOUND IN DENMARK.

tively stout and strong, and Dr. Sophus Muller concludes it was not placed complete in the soil, as a treasure in a hiding place, but deposited in the guise of an offering; and if this offering were to some deceased personage, purposely broken, as were by nearly all races, many votive offerings to the names of the dead.

The horse is complete, except the tail, the projection forming part of a tail, has a hole at the end for either a bronze prolongation to fit into it, or, more probably, for a small imitation horse-hair tail to be secured. The centre axle is fixed to a sort of pole, which also originally connected with the front axle, and upon these two axles were placed bearings for the horse's feet. The whole of the work, both horse and chariot, therefore ran upon wheels. Below the horse's neck and upon

the front rim of the sun disk are loop holes for attaching a cord representing reins. The ornamentation upon the disk, the Danish antiquaries considered to be the finest piece of work yet discovered, outside of Greek influence at so early a date.

The mythological interest of this relic is as valuable as its artistic merit, for it is an important monument of the prevalence of sun worship in Northern Europe in prehistoric times. Pytheas, whose account of a voyage to the North Sea in the time of Alexander the Great is still partially extant, spoke of the reverence the Northern barbarians paid to the sun. As also does Caesar in his record of his German campaigns. But Dr. Karl Blind, of London, who has been writing and lecturing upon the various subjects upon which this new monument throws light, points out that in the old myth, or Saga, of the Norse race, known as the "Younger Edda," the Car of the Sun as being drawn by horses is actually referred to; further, the sun is said to drive the steeds in the "Older Edda":

The sun from the south,
The moon's companion,
With her right hand held
The heavenly horses.

In Odin's "Rauer Song" the day, called the Son of "Delling," drives the sun, who is termed the "Dwarf Dvalin's Deluder," over Mannheim (man's home), the world:

The Son of Delling
Urged on his steed
Adorned with precious stones,
Over Mannheim shore;
The horse's mane;
The Dwarf Dvalin's Deluder
He drew in his chariot.

The sun in North Europe was called a wheel, Yule tide means wheel tide, and the rolling of fiery wheels down the hillsides was recently in many parts of Scandinavia, France and Germany a folk-lore practice. The northern Sun goddess had a daughter, which unites itself with the Hellenic daughters of the Sun, the Heliades. The Greeks connected them with a river, Rhodanos, or Eridanos, which some classic authors placed in Spain, or connected with the Italian Padus; but Dr. Karl Blind points out, a branch of the Vestula was the Rhodan, and *os* is merely a Greek ending to the name. Now, the Greek Sun daughters, Heliades, were said to have been changed into trees and their tears hardened into amber. Herein lies the ground of connection with the Baltic, for from thence the Greeks obtained their much prized amber; and, strange to say, the Heliades' myth appears to show they were aware that it was a product of the gum, or resin, of trees. The Rhodan(os) flowed into the Baltic amber-producing shore, and this story of the Sun daughters appears to have been brought by fresh traders passing up the Vistula and down the

Borysthenes to Greece, and thus this Northern Sun Chariot mingles itself with our more well known classic mythology.

But there is another connecting link with the Semitic races, for II. Kings xxiii: 11, shows that sun chariots were an object of worship in the Hebrew temple, and as it was considered idolatrous they, like other pagan symbols that had obtained entrance there, were destroyed. That they were articles of adoration is certain, because Babylonian inscriptions have recently been found relating to the worship of the Sun God Chariot. This cult may have been introduced into Mesopotamia by the Accadians, or Sumerians, who, for all we know, were of the same race as the earlier inhabitants of Scandinavia. Certainly we have records of Sumerian and other tribes settling in Western Asia. On the other hand, the idea of a Sun God Chariot may have spread from Asia to Europe, but they obviously are of the same concept and united by some racial link at present not clearly manifest.

In an essay published last year I showed conclusively that the Rain Maker, or Kettle Wagons, of Thrace and Northern Europe and Cyprus were absolutely identical with the wagons made by Hiram of Tyre for Solomon's Temple, and, therefore, it is not surprising to find a similarity between the Sun Chariot Trundholm and those of Babylon and Palestine.*

SHELL HEAPS OF THE LOWER FRASER RIVER, BRITISH COLUMBIA.

BY HARLAN I. SMITH.

[Abstract of a paper presented at the Thirteenth International Congress of Americanists.]

The most extensive remains of the early inhabitants of the North Pacific coast of America are shell heaps, made up of layers of shells and other refuse from their villages. These are very numerous, and vary in size from the refuse of a single night's camp to ridges covering acres. In places the accumulations reach a height of nine feet. That these are at least several hundred years old, is indicated by the giant stumps standing on them. There is a difference in the materials and the various objects lost among them by the primitive people; the heaps along the sea beaches being different from those along the Lower Fraser River in that they seldom contain burials, are composed more largely of shell material, and in that fewer specimens are found in them.

These shell heaps were first mentioned by Bancroft in 1875, later by Dawson of the Canadian Geological Survey in 1877. The first systematic exploration was conducted by the writer for the Jesup North Pacific Expedition. The work was done

*In the "Revue Archeologique," 1903, pp. 347-382, M. Rene Dessaud in an article upon "Notices Sur la Mythologie Syrienne" has a paragraph relating to the worship of the "Quadriga Solar Chariot" in Syria.

in 1897 and 1898 at Port Hammond, the former terminus of the Canadian Pacific Railroad, and at Eburne, which is about six miles south of Vancouver. The specimens collected are preserved among the collections of the American Museum of Natural History, and the results of this exploration are published in the Fourth volume of the Memoirs of that Institution.

The potter's art was unknown to the natives of the region. The specimens found in the deepest layers of the shell heaps are similar to those found in the upper or more recent layers, while all of them are somewhat similar to the objects made by the present Indians of the region. These objects include points chipped and ground out of stone for arrows, knives, and harpoons,—the points rubbed out of bone for similar purposes; pestles, hammers, mortars, stone chisels, whetstones, awls, and needles. Bones of the dog were found, indicating that these people made use of this animal.

The physical type or part of these people, as indicated by their bones, differed very much from that of the modern Indians, while another part seems to have been of the same type. Many evidences of contact with people of the interior were found, and it seems that the culture of the ancient people who discarded the shells forming those heaps near Vancouver was in all essential particulars similar to that of the tribes inhabiting the same area, but that it was under a much stronger influence from the interior than is found at the present time.

RECENT DISCOVERIES IN ROME.

BY H. STUART JONES.

[Extract from The London Times.]

The winter season has witnessed the progress of excavations in the Campus Martius and the Forum; but in the case of the *Ara Pacis* the technical difficulties to be surmounted, arising from the fact that the work has to be carried on partly below a thoroughfare and partly under the Palazzo Fiano, have rendered the exploration of the site a slow and costly process. The engineering works directed by Signor Cannizzaro will doubtless permit the solution of the important questions regarding the surroundings of the altar-precinct and the recovery of the remaining fragments of sculpture. So far, however, it has not even been found possible to raise the fine panel of the frieze with the figures of flamines, although a slab on which is carved a bearded figure (ideally representing the Roman Senate) in the act of offering sacrifice has been brought to the surface. This is specially interesting since the adjoining block, which completes the scene, was discovered in 1859 and is now in the Museo delle Terme. The recent finds have

fortunately settled the difficult question as to the distribution of the various sculptures on the four sides of the building, and the results have been set forth in a preliminary report by Professor Pasqui, the director of the excavations, and in papers by Professor Petersen of the German Institute, whose previous conclusions have been in some respects modified. No place can be found for two of the reliefs in the Villa Medici, formerly supposed to have belonged to the *Ara Pacis*, but the villa retains other panels, including that on which Augustus himself is represented. This, together with another fragment, was used in the sixteenth century to form a *pasticcio* with plaster restorations, and it is much to be wished that both it and the other panels similarly treated might be removed from their present position and placed beside those portions of the monument which have been subsequently discovered. Let us hope that the cordial relations between France and Italy, so signally manifested on the occasion of M. Loubet's visit to Rome, may be further exemplified by the transference to Italian hands of these memorials of Imperial Rome. It must be mentioned that the work of the excavators has been seriously hampered by scarcity of funds. It is to be hoped that the financial difficulties from which the Ministry of Public Instructions suffers will not be allowed to interfere with the speedy completion of so excellent a piece of work.

The aspect of the Forum continues to give evidence of the unflagging energy of Comm. Boni. Visitors to the Basilica of Constantine may now see portions of the original pavement in colored marbles, partly buried under huge blocks of concrete which have fallen from the lofty vaulting. The exploration of the prehistoric tombs beside the Sacra Via has also made steady progress, and the series of "augural pits" which seem to mark the limits of the Forum as laid down by Julius Cæsar has been traced at the eastern end, beside and beneath the temple of the great Dictator.

But the centre of interest unquestionably lies in the area of the Forum itself. Readers of *The Times* will recollect that in the course of last summer Comm. Boni discovered beneath the pavement of the later Empire the foundation of a large monument, which he identified from its position with the famous equestrian statue of Domitian described by Statius. This identification seems in a fair way to be generally accepted, although sceptics profess to find a difficulty in the position of the three sockets in which the supports which carried the legs of the Imperial charger are supposed to have been fixed. It is true that their arrangement does not correspond with that usually observed in existing equestrian statues, such as that of Marcus Aurelius on the Capitol; but Comm. Boni believes that a satisfactory restoration is possible. Meantime, he has instituted a search for the deposit made at the time of the inauguration of the monument, which has led to most unex-

pected results. The deposit, indeed, was found in a specially constructed chamber of travertine, embedded in the concrete foundation; but it consisted of five vases precisely resembling those found in the later tombs of the prehistoric necropolis by the Sacra Via, which date from the latter part of the eighth century B. C. The vases contained nothing but a piece of native gold and minute quantities of pitch and tortoise-shell. Comm. Boni sees in the presence of the gold nugget a proof that the deposit dates from the inaugural ceremony, comparing the statement of Tacitus (Hist. IV., 53) that when the foundations of the new temple of Jupiter Capitolinus were laid by Vespasian, *passim iniectae fundamentis argenti aurique stipes et metallorum primitiae, nullis fornacibus victae, sed ut gignantur*. In that case we must suppose that vases were made for ritual purposes in exact imitation of the fabrics of the eighth century B. C.; and some support is lent to this view by the fact that pottery of a rude and archaic character has been found in the grove of the Dea Dia, where the ceremonies of the Arval brotherhood were performed, and seems to have been in use in Imperial times. Others, however, have put forward the view that an ancient tomb was discovered by the workmen in laying the foundation for Domitian's statue, and that a place was made for its contents as nearly as possible on the spot where they were found. The grouping and variety of the vases certainly suggests a sepulchral deposit.

LACUS CURTIUS AND THE VARIOUS CHANGES.

A still more interesting discovery was made in the latter part of April. Comm. Boni has long been eager to find the spot so famous in Roman legend as the Lacus Curtius. The familiar story of the chasm filled by the self-sacrifice of Marcus Curtius, which was placed by tradition in 362 B. C., was not without rival versions. Some historians traced the name to Mettius Curtius, the leader of the Sabines in their battle with Romulus; others, whose rationalism took a more prosaic tinge, to Caius Curtius, Consul in 445 B. C., who was said to have erected a *puteal* on the site where a thunderbolt had fallen. The popular story, however, is doubtless the oldest, and seems to be commemorated by a bas-relief, said to have been discovered in the Forum in 1553 and preserved in the Palazzo del Conservatori, whose antiquity has been called in question, probably without sufficient reason. What is certain is that by the close of the Republican period the *lacus* had been replaced by an altar at which offerings were made to the Manes of Curtius. Ovid, in fact, says (Fast. VI., 404):

Curtius ille lacus, siccas qui sustinet aras,
Nunc solida est tellus, sed lacus ante fuit.

Comm. Boni noticed, in the pavement of the later Empire, a block which had evidently formed the angle of an enclosed

precinct, orientated not by the lines of the Imperial Forum, but by those of Republican constructions. The pavement was removed, and beneath it was found a paved enclosure of irregular shape, at the south end of which was a circular foundation of tufa blocks. In a cavity in one of these blocks were the charred remains of a sacrifice—perhaps the last offered to the shade of Curtius, if the identification with the Lacus Curtius and its altar be correct. The precinct appears to have contained other monuments beside the altar of Curtius and to have been altered in shape, if not in position, more than once. Comm. Boni thinks that these alterations may have been connected with the rebuilding of the Basilica Julia, which is separated from the enclosure only by the Sacra Via and honorary monuments of the fourth century A. D., and intends to make a thorough "stratigraphical" exploration of this portion of the Forum, which should lead to important results. It is also hoped that the coming summer will see further progress made with the excavation of the Basilica Aemilia, while there has been some talk of the commencement of the long-deferred researches on the Palatine, which should determine the site of the temple of Apollo and Palace of Augustus.

In conclusion, it is worthy of mention that those present at the final meeting of the German Institute on the "birthday of Rome" were privileged to see the fragments of an Imperial monument, discovered in the course of the construction of the new Piazza dell' Esedra, which have been presented by their owner, Dr. Hartwig, to the Museo delle Terme. Their chief interest lies in the fact that on one of them is represented in relief the temple of Quirinus, in whose pediment we see a group which unmistakably depicts the auguries taken by Romulus at the foundation of Rome. A flight of birds hovers in the centre of the pediment, while Romulus and Remus with attendant divinities occupy the wings. It has not yet been possible to determine to what monument these sculptures belong.

MONUMENTS OF PRIMITIVE PHARAOHS.

BY JOSEPH OFFORD.

In Egyptian archæology it may truly be said that it is the unexpected that frequently happens, and this has recently been exemplified by the discovery that confirmation of the careers of the exceedingly early dynasties of Pharaohs whose fragmentary records were unearthed by M. Amelineau and Professor Petrie, at Abydos, has been forthcoming from reliefs and texts carved upon the rocks in the Sinai peninsula. For a complete account of these researches, that have afforded this information, as far as at present possible, students must refer to two articles by M. Raymond Weil in the *Revue Archéologique* for 1903, entitled "Inscriptions Egyptiennes du Sinai." His attention was called to the matter early in last year upon finding that in addition to the publication, in 1894, by M. G. Bénédite, of the existence of a monument of Noutirka, or Xosiri, of the third dynasty, at the Wady Magharah, there were in England many copies of Egyptian Sinaïtic texts among papers and squeezes taken by three British travellers. These were Professor Palmer, Rev. F. W. Holland and Major Macdonald, the last of whom, accompanied by his wife, resided during the final years of his life in the Magharah valley at Sinai.

The requisite documents M. Weil desired to examine were found at the British Museum and the offices in London of the "Palestine Exploration Fund," and he immediately detected the name "Mersekha," one of the earliest known of all the Pharaohs of the first dynasty. This is the title of the king whose name frequently appears, particularly upon small objects, deposited in the archaic Thinite tomb at Abydos, and it is supposed to be the "Horus name" of Samou-Semempses, a late monarch of the first dynasty. The name Mersekha is most clearly inscribed at Sinai, twice in an archaic square "Horus Cartouche" surmounted with a figure of the Horus Hawk, or Falcon. It is now written mer-s-kha as on the royal clinders from Abydos, but as s-mer-kha, which is the form given to it on the pottery from that site.

On the Sinai relief the king is first represented in the act of executing a Syriac captive, with his mace. Then, twice, standing upright; once wearing the crown of Upper Egypt and once that of Lower Egypt. The representation of the execution of prisoners is practically identical with a similar scene depicted upon an archaic plaque of King Den, in the

Macgregor collection, in which, as on the Mersekha relief, the Horus name, only, of the Pharaoh is given. In fact, as M. Weil remarks, the style and workmanship of the two tableaux indicates that Mersekha and Den must have been almost contemporaries. The relief and tablet, or cartouche, of Noutirkha, or Zosiri, are lamentably effected, but his "Horus-name" is perfectly clear. The king is delineated in a somewhat similar attitude to Mersekha, with a kneeling Asiatic, imploring mercy, before him. This relief has an accompanying inscription, the well-known formula: "Give riches, stability, life, and joy forever." There is a third relief of similar character, with a text: "Give everlasting life," but unfortunately the Pharaoh's name does not appear upon any of the copies of it, though it is to be hoped a careful scrutiny of the monument may detect it.

From these discoveries there proceeds a most important historical consequence, and that is, that these archaic monarchs must have been, like the later Memphite dynasty ones, rulers not only of Upper but also of Lower Egypt; for these Thinite dynasty kings could not possibly have held the Sinaitic district, and possessed mines there, of which these reliefs are probably records, unless they were lords of the Delta and the land of Goshen, as well as the Upper Nile valley. It has been noted, too, that one relief emphasises this by depicting the king with the crown appertaining to the two (north and south) divisions of Egypt.

The celebrated tablet possessed by Mr. Macgregor, which indicated by its picture that Zosiri had conquered over Asiatics, it is now seen, almost certainly refers, not to his defeating them when invading Egypt, but to a victory over them beyond the isthmus of Suez. These facts were suggested previously by hieroglyphic texts on the ancient vases of Khasokhmou, found by Mr. Quibell at Hieraconopolis, which refer to the "union of the two lands," and another text upon one, which speaks of "the year of war with the vanquished ones of the north." But the archaic inscriptions from Abydos had distinctly recorded that the kings, they appertain to, were Soutou Beiti, that is, chiefs of Upper and Lower Egypt; and were "lords of the vulture and the uraeus," which is a term of the same significance. They also had the title Niboui, or "double lord," and they are called "Horus-Sit," which we know, under the fourth dynasty, conveyed the idea of sovereignty over all Egypt.

Finally, the actual presence of Thinite dynasty Pharaohs in Lower Egypt was proved by the finding at Sakkarah, two years ago, near Unas' pyramid, of many cylinder impressions of two of their kings in their Horus names: Ra-nib and Hotpu Sokhmoui, whose titles are well-known upon the Abydos monuments, and whose reigns were at the

end of the second, or commencement of the third dynasty.

There cannot be any doubt but that the tendency of all recent evidence is to show that as the researches of Egyptologists become more profound and efficient, the history of ancient Egypt is gradually carried back into a higher antiquity. We now see that the very early dynasties which it was the fashion to consider as petty principalities governing only a small area of the country, and consequently possibly, in many cases, contemporary with each other, were in reality rulers over all Egypt as much as the great Pharaohs of later times. This tends to augment the ethnology of the Egyptian dynasties and prove the accuracy of Manetho's list of monarchs.

And more than this, for it is evident that they were sufficiently prosperous at home, and therefore powerful abroad, to hold territory in the Sinaitic peninsula, much as descendants a thousand, and more, years later are known to have done.

It is plain, that if, at some early period, the governing race in Egypt of later times was at its commencement of supremacy merely ruling over some small province of the land, and afterwards, as with Rome in Italy, gradually acquired control of the whole country, that the records of this primitive and territorially restricted, series of princes have yet to be found. If ever they are so discovered they will be a line of chiefs, or kinglets anterior to Menes.

FINDS IN EGYPT.

BY F. LEGGE.

[Extract from the Proceedings of the Society of Biblical Archaeology.]

The discoveries of M. Amélineau and Prof. Petrie at Abydos, of M. de Morgan at Negadah, and of Mr. Quibell at Hieraconpolis, have given us a knowledge of the earliest historical or Thinite dynasties, that to Egyptologists of the last generation would have seemed past hoping for. Thanks, however, to the ransacking that these find-spots suffered even in Pharaonic times, the identification of the monuments there discovered with any of the kings of the lists previously known to us is by no means easy. Hence, from the outset, it has proved a bone of contention to the learned, and while M. Amélineau at first asserted that he had uncovered the tombs of Osiris, Horus, and Set, M. Maspero was equally positive that his principal discoveries were not earlier than the third dynasty. Since then, the battle-ground has shifted; and Prof. Petrie has claimed that he can identify with the Abydos monuments not only the whole of Manetho's and Seti I.'s dynasty, but can also give the names of five kings who reigned before Menes. Against this, Dr. Sethe—who was really the first to show the

connection of any of the Abydos monuments with the first dynasty—will have none of Prof. Petrie's pre-Menite kings, and rejects three out of eight of his first dynasty identifications. Finally comes Dr. Naville, who in a series of brilliant and closely-reasoned articles, takes the theories of Prof. Petrie and Dr. Sethe very much to pieces, and would leave only two of their identifications in a valid condition. As this controversy has hitherto been conducted in three different languages, has extended over some years, and has been complicated by the introduction of irrelevant issues, it is thought that an impartial summary of the arguments may be of use to those still anxious to know how much these discoveries have really added to our knowledge of the earliest Egyptian history.



THE OXYRHYNCHUS PAPYRI.

(EXTRACT FROM LORD CROMER'S REPORT.)

Whilst on the subject of antiquities, I venture to draw attention to the extraordinary historical interest of the volumes recently published by the Egypt Exploration Society. Many of the letters which have been unearthed and deciphered by the industry and learning of Messrs. Hunt and Grenfell, are almost the exact counterparts of those which used quite recently to be received in large numbers, and are still to a certain extent received, at the British Agency. These volumes also abound with evidence to show that many of the abuses which, until very lately, existed in Egypt almost in their original form, are of very ancient date. For instance, plentiful allusions are made to the system of tax-farming which, it is well known, prevailed in Egypt, as elsewhere, from time immemorial, and which appears everywhere to have given rise to abuses very similar in character. I think I am right in saying that, with the fishery reforms, almost the last vestige of this iniquitous and oppressive system will disappear. I note with some interest, that in the days of Domitian, the system—though without doubt equally oppressive to the taxpayers—seems to have been scarcely so lucrative to the tax-farmers as in those of Abbas II. I have already mentioned that one association of farmers, who dealt with the fisheries, has recently been making a net annual profit of over £30,000. On the other hand, I gather from a letter addressed by "Paniscus, Strategus of the Oxyrhynchite Nome, to Asclepiades, Basilico-grammateus of the same Nome," that certain taxes, the nature of which is not specified, being put up to auction, the farmers who had previously held the concession, not only refused to bid, but "seemed likely to abscond," on the ground that they "had incurred sufficient loss already." If the system were allowed to exist at all, I am not sure but that the practice

adopted in the first century, under which apparently the profits went mainly into the government treasury and less into the pockets of the middlemen, is not preferable to that which has now been abolished.

Slavery is another case in point. The sale and purchase of slaves has, of course, long since ceased in Egypt, but it still exists in the more remote and inaccessible portions of the Sudan. In my Sudan Report, I have alluded to the fact that, on the upper waters of the Blue Nile, an able-bodied lad of 15 years old can be purchased for £12, and I was curious to ascertain how this figure compared with the price in ancient times. The *Oxyrhynchus Papyri* abounds with statements which enable such a comparison to be made. I chose one of these by way of an example—the case of a woman, 35 years old, named Euphrosyne, who, in A. D. 86, was purchased from her mistress (Aloine, daughter of Komon, &c.), and freed by a certain Chæremon. The price paid was "10 drachmæ of coined silver and 10 talents, 3,000 drachmæ of copper." Brugsch Bey was kind enough, at my request, to convert this sum into modern English currency. He informs me that it is the equivalent of 7/2s 6d. I must leave it to those who are better acquainted than myself with the purchasing power of money in the first as compared to the twentieth century, to say whether, as I trust is the case, a slave really costs more on the Abyssinian frontier in 1904 than was paid in Egypt in the year 86.

Many more instances similar in character might be adduced from these interesting volumes, all pointing to the conclusion that when, of recent years, Egyptian reform was taken seriously in hand, the reformers had, in many cases, to deal with practices which had existed, without undergoing any very material change, for at least 1,800 years.

ALL THE STATES AT THE WORLD'S FAIR.

All the states are to be represented at the World's Fair. This means a great deal, a shining triumph for the Louisiana Purchase Exposition, and furnishes another illustration of the fact that this Exposition's completeness is the marvel of the age.

Fifty-one states, territories and possessions of the United States have taken the steps necessary to participate in the World's Fair on an important scale. But two states were still outside the fold at the last report, and in each of these was a well-defined movement in favor of being represented at the Fair with buildings and exhibits. New Hampshire, the old home state, and Delaware are the states referred to. In New Hampshire a fund for participation is being raised privately by patriotic citizens, so that in the event of legislative inaction this commonwealth may be represented.

The states and territories are expending over \$7,000,000 in their efforts to show off to the best advantage at the Exposition. This is a million and a third more than was expended at the Chicago Exposition by the states. In addition to this, large cities in many states will have municipal exhibits, the costs for which are not included in these figures. The municipal exhibit idea is entirely novel. From a number of the states there will be prominent county exhibits provided by special appropriation of county funds.

This City of the States presents a picture of surpassing beauty. Nature has done much to aid in the creation of the future. Never before has any exposition been able to grant such advantageous sites for state buildings. The buildings are situated on a plateau about seventy-five feet higher than the level ground to the north upon which stand the main exhibit places. There are hills and ravines here and there, enabling the landscapists to lay out a most delightful pattern of roads and terraces and lawns.

The smallest of the state buildings is that of Arizona, which stands near the southeastern entrance to the grounds. One of the largest is that of Missouri, from the dome of which it is said that perhaps the very finest view of the Exposition may be enjoyed. This building is a palace in the Italian renaissance architecture, built at a cost of \$105,000. Near by is a reproduction of the Cabildo at New Orleans, in which the Louisiana purchase transfer ceremonies took place—Louisiana's state building. Ohio has a clubhouse of highly ornate design, in the architecture of the French renaissance. Illinois is prominent with a most pretentious structure, with wide verandas and a commanding cupola.

It is only possible here to hint at some of the interesting structures. California, for instance, has reproduced in exactness the famous old La Rabida Mission. Connecticut presents a replica of the Sigourney residence at Hartford, home of the poetess Lydia Huntley Sigourney in her time. This building is said to be the finest specimen of purely colonial architecture now standing. The New Kentucky Home, from the Blue Grass State, is a handsome clubhouse that would make some of the mansions along Fifth avenue, New York city, look insignificant. Beauvoir, the quaint old house which Jefferson Davis owned and occupied for many years, is reproduced by Mississippi; its wide verandas or galleries give it a most inviting appearance. Washington's headquarters at Morristown, N. J., is reproduced by New Jersey. Virginia contributes Monticello, the home of Thomas Jefferson.

The state of Washington contributes a structure of unique design. It is called the Wigwam, five stories high, built of wood from Washington forests. The building is octagonal, with gigantic diagonal timbers rising from the ground and meeting in an apex ninety feet in the air, above which is built

The importance of Asia Minor, also, to the student of Old Testament history is manifest from the fact that the records of the Hittite tribes, who exercised so strong an influence upon Palestine, in the days of the Pharaohs and at the time of the Exodus, lie buried beneath its surface. This society has already published two papers, one of which contains photographs of certain Hittite cuneiform tablets; also photographs of a great Hittite stela discovered by Dr. Belck.

EPHESUS.—Of the Greek cities in Asia Minor, Ephesus and Miletus were in ancient times among the most important, and at these two places the Austrians and Germans respectively are carrying on thorough excavations. At Ephesus the excavations of the present season have not begun, for the greater part of the ancient city lies so low that the water makes digging impossible until the summer is more advanced. In the last few years the great theatre has been cleared, several detached monuments have been investigated, the city walls and the water works have been studied, and much of the business quarters has been laid bare. At Miletus the German excavators, under Dr. Wiegand, are already at work. The excavations were begun in 1900 and have entirely cleared the magnificent theatre, the town house or bouleuterion, with its portylæum, large enclosed court, great altar, and assembly hall, as well as several less important buildings. Work is now going on at The Lion's Harbor and at a large Roman bath.—*Bibliographia.*

THE BABYLONIAN EXPEDITION.—The recent reports from Dr. Edgar J. Banks, the Field Director of the Expedition of the Exploration Fund of the University of Chicago, are very satisfactory. The trouble with the Arabs has been amicably arranged. In his latest report (No. 13) from Bismya, dated March 25, Dr. Banks writes: "Since my last report the excavations have been carried on but four days on account of severe sand storms, religious feasts, trouble with an Arab sheikh, and my absence in Kut-el-Amara to meet Mrs. Banks and Mr. Page. The finds, as you will see from the enclosed list, are of considerable interest."

"I am not yet certain as to the nature of this ruin (III) where we are now excavating. It may be a single palace, or a number of small houses and narrow streets. If the latter be the case, the streets are about a metre wide, and along them are placed water jars. All of the tablets found in this ruin are near the surface, and none have appeared lower than two meters. In one room excavations have been carried to the depth of twelve meters, and even at that depth walls and fragments of pottery appear. The tablets, which seem to be found in groups of from ten to twenty, are all inscribed with the same ancient character of Sargon's time, and the frequent occurrence of his name and the appearance of the name of Naram Sin lead me to suppose that Sargon and Naram Sin once lived here. It seems best to continue the work at III, for the tablets are of unusual antiquity, easy to excavate, and the other finds are of interest."

EDITORIAL.

ARCHÆOLOGICAL RESEARCHES IN COSTA RICA.*

This book is valuable for several reasons. In the first place it is gotten up in a splendid form. It is printed upon heavy enameled paper with wide margins, and is full of illustrations; many pages containing several wood cuts; others having the character of plates, which are printed only upon one side of the paper, and are attended with a leaf which contains the description of the plate. The book itself is almost too thick and heavy for the convenience of the reader. The edition is limited and most of the copies will probably go to large libraries.

The especial value of the book is that it contains a description of a series of articles which were discovered by the author, Mr. Hartmann, in a locality of which little has been known before, namely, Costa Rica, and describes articles which are somewhat novel. The majority of these articles were discovered in stone graves, at no great depth; some of them adjoining the site of a mound temple, showing that there was a sense of sacredness about the temple, which led to the burial of the bodies with the relics.

The most interesting discovery was made at Mercedes, which consisted of a large mound surrounded by stone walls, which the explorer, Mr. Hartmann, thinks was used as a platform on which to place a number of idols; a temple made of perishable material having been placed upon the foundation. The images, or idols, were found scattered about, the most of which were represented as having the same attitude and presenting the same characteristics. They were represented as nude, without any decoration, except a simple skull cap and a rope which was stretched over the shoulders of one of the idols and crossed the body in front. The hands were represented as resting upon the hips, and the male and female organs were plainly depicted. One of the idols had in his left hand a small human head, resembling that which is held in the hand at Cosumalhuapa, though the idols were far inferior to those which were discovered by M. Habel at that place. There were many graves at Mercedes which were covered with heavy stone slabs, though the most of them had been opened. The bottom consisted of several slabs, upon these were found flattened, globular, wide-mouthed bowls of coarse clay; ornaments formed by degenerate animal heads; the color was a reddish yellow. One vessel contained traces of charred corn; another contained a bluish green glass bead, called by some "millefiori,"

*"Archæological Researches in Costa Rica," by C. V. Hartmann. Published by the Royal Ethnographical Museum, Stockholm, Sweden; 1904. 87 half-tones and 486 cuts.

others called "aggry" beads, suggesting the idea that the relics were deposited after the advent of the whites. Identical beads have been found in Indian graves in various parts of the United States.

A vessel in imitation of a bird, and a celt of green stone, smoothly polished; also a wide-mouthed vessel, ornamented with a cord; a jar containing grotesque frog-like figures in relief on the outside; also a large, shallow, tripod bowl, with the legs in the shape of conventionalized birds, were found. The most interesting object was the head of a tapir, with the



Fig. 9. Pl. 48.



Fig. 1. Pl. 2.



Fig. 1. Pl. 3.

ARTICLES AND IDOL FOUND AT MERCEDES.

short ears, large eyes, long teeth, and a trunk which projected in front of the upper jaws, but did not extend below the lower jaw. This is a very interesting relic, for the form of the trunk was in this case very different from those which have been found in Nicaragua. These trunks were carved upon the summits of the stele, and have been called by some, elephant's trunks, and by others, the trunk of the tapir; but the difference between the two is so marked as to leave in Nicaragua an uncertainty, though it makes a certainty in reference to those in Costa Rica.

Nor far from this large mound, which evidently marked the site of a temple, were many caches in which were objects

which showed a considerable advancement in art; they consisted of ornaments, bowls, tripods, circular discs, egg-shaped vessels, and vessels with conventionalized birds' heads.

Idols were found at Mercedes in such numbers and variety that the locality was called a stone cutter's working place, the ground was almost filled with discarded figures, mainly of idols or human images. The astonishing number of squatting figures called the Flute-blowing God, shows that this was a popular idol. Several flute-blowing idols were found in other localities, which confirms this supposition.

It is a strange coincidence that idols have been found in South Africa with flutes in their hands and skull caps on their heads though these idols are dressed in costumes, which show much more advancement in the textile arts. The flute was evidently a very favorite instrument among most of the rude races and was especially common in this region. Another



Fig. 6. PL. 53.



Fig. 3. PL. 56.

FLUTE PLAYER AND JAGUAR-SHAPED VASE.

flute-playing idol was found at Chircot. This was in a sitting posture, but had the same general features as those found at Mercedes. These images throw very little light upon the religious systems which prevailed, except that of idolatry, yet this is important in itself.

There are several articles in the collection which resemble those which are described by Mr. Holmes in his pamphlet. Among these we might mention Plate 56, Fig. 3, which represents a jaguar shaped vase made of basalt lava; the length, 24 5-10 centimeters. Plate 64, Fig. 2, is a flat vessel, which is made up of three separate bowls, or vases, with wide mouths; each vessel supported by a single leg, but all joined together by solid bands or necks. Just such vessels were found by Mr. Clarence Moore in Western Florida, and are described by him in his monograph. Plate 50, Fig. 2, resembles one which is described by Mr. Holmes. It represents a circular table of basalt lava, the top somewhat concave and adorned with knobs, and animal heads around the lower margin.

At Williamsburg and at Highland Plains in the province of Cartago, many interesting articles were discovered. In the vicinity of the Santiago Station there were stones forming circles, with oblong graves within the circles. Here the article consisted of globular bowls, clay vessels, clay spoons, stone vessels in the shape of animals; also a beautiful clay vase,



SYMMETRICAL AND FINELY COLORED CLAY VASE, ETC.

which was symmetrical in shape and finely colored. The Greek fret was an ornament on the vessel; the handle was in the shape of an animal with heavy elephantine legs, but with a head resembling that of a tapir.

Many clay vessels were found in the burial ground at Chircot, the majority of them being supported by tripods and

having images of animal heads and human heads moulded upon the outer part, or upon the legs and handles. These vessels were graceful in shape, and show a very considerable skill and taste in art. In fact, there are few regions in America which furnish better specimens of pottery than are found here. The ornaments are generally conventional, and yet occasionally one will find representations of animal figures, which are very lifelike and show great imitative skill. One such vessel represents a jaguar; it was a rectangular bowl, the ground color, cream white, decorated in spots of black and red, in imitation of the animal's skin. Another large, shallow, tripod bowl is adorned on one side with an animal's head and fore feet in relief; the animal's head is especially attractive, as it brings out the very expression of the animal's face.

At Orosi a number of graves were opened and many interesting articles exhumed. Another flute-blowing image was discovered here. This was in a seated posture, as several at Chircot were. In this locality two sculptured heads were discovered which presented fine features, which were almost too good to belong to the native races, yet both were covered with a skull cap, and there is no good reason to regard them as post-Columbian. A stone vessel in the shape of a jaguar was also found at Orosi, which very closely resembles those which have been described by Mr. W. H. Holmes as somewhat common in the province of Chiriqui, suggesting the idea that possibly the pattern may have been borrowed from that region.



PENSACOLA IDOL.

Interesting clay vessels were found, which had on their surfaces an image which represented a cross as well as the human form; one of these was found at Chircot, and the other at Orosi. It is not certain whether the symbol of the cross was intended, though it can be easily recognized by those who are familiar with the symbol. The human image consists only of two triangular jaws confined within the circles, the eyes near the circles, but the pointed chins coming near the center; the arms of the cross forming a band across the circle between the faces, but crescents fill the spaces between the arms and face.

There are many grotesque images in this collection, some representing bottles, with human arms extending from the side and human faces moulded upon the neck and upon the handles. These bottles, notwithstanding their grotesque shape, show very considerable skill in the art of imitation. A jaguar's head sculptured in fine-grained basalt, adorned with the human face on its top, is one of the figures which show much skill of imitation, and especially skill in bringing out the expression of the jaguar itself.

Numerous circular stone enclosures were found at Orosi of a domiciliary character, and in many of them the inhabitants



IDOL FROM LAKE NICARAGUA.

evidently had workshops for the manufacture of weapons and tools out of the material which was abundant. The burial ground at Lashuac presented the most interesting finds. Here was a large hemispherical tripod bowl of cream color, richly adorned in designs of red, black and yellow; the interior decoration shows highly conventionalized animal figures. The legs are grotesque heads representing the combination of the animal and human, and one of the most interesting speci-

mens, is one which represents a large hemispherical tripod bowl, with decorations representing conventional heads and several arms in gyrations; the legs are in the shapes of eagles' heads. This figure, which seemed to be gyrating, is certainly an interesting one, for it shows that there was a skill among the artists which had grown up among the natives and was entirely original, and yet the fact that it suggests motion, is worthy of notice.

The comparison of the articles which are described in the book with others which have been discovered in adjoining provinces—in Chiriqui and in Nicaragua—will be instructive. Mr. H. H. Bancroft says that Costa Rica, adjoining Chiriqui,

is the most southern of the states which belonged politically to North America; all the isthmus provinces forming a part of Colombia, a state of the Southern continent.

Mr. E. G. Squiers describes vessels of earthenware in localities from Costa Rican graves; the most of which are characterized by the same peculiarities. The following is the classification made by Mr. Bancroft: (1) Mounds, sepulchers, and excavations; (2) figures cut on rocks or cliffs; (3) statues or idols of stone; (4) stone weapons, implements, and ornaments; (5) pottery; (6) articles of metal.

Statues and stones representing human beings, generally—in some cases, animals and monsters—have been described to the number of about sixty, constituting the most interesting class of Nicaraguan relics. The island of Zapatero has furnished some idols, which are found in connection with stone heaps, lying for the most part buried in the sand. The idols are larger, and some more elaborate in workmanship, than those found elsewhere, and genital organs appear in many of them, indicating the widespread phallic worship. One of these represents a human head on an immense pedestal, and forms a cross, a symbol not uncommon here; another is a huge tiger, eight feet high, seated on a huge pedestal; a third represents an idol "of wild and benignant aspect"; a fourth represents a statue over twelve feet high.



IDOL FROM LAKE NICARAGUA.

In reference to the entire collection, as represented by the plates in this book and the descriptions furnished by the author, we may say that it is quite unique, and yet resembles in many respects collections which have been gathered into the museum at Washington from the neighboring province of Chiriqui, and has been described by Mr. W. H. Holmes in his pamphlet en-

titled "The Ancient Art of the Province of Chiriqui, Colombia," and published in the Sixth Annual Report of the Bureau of Ethnology. The human figures are very similar: statuettes of men and women in all degrees of elaboration. Here, however, there are human figures in gold which are entirely different from anything found by Mr. Hartman, though some of the figures represent flute blowers.

Mr. Holmes says a careful study of the earthenware of this province leads to the conclusion that for America it represents a very high stage of development, and its history is, therefore, full of interest to the student of art. Its advanced development compared with other American products, is shown in the perfection of its technique, in the high specialization of form, and the conventional use of a wide range of decorative motives. The graves of Chiriqui have yielded upwards of ten thousand pieces of pottery, and this chiefly from an area of not more than fifty miles square. These vessels constitute at least 90 per cent. of the known art of the ancient occupants of the province, and although not so eloquent of the past, as are the pictured vases of Greece, they tell a story of art and of peoples, which without their aid would remain untold to the end of time.

A unique vessel* which showed a peculiar conceit of the native artist, on the front and back resembles the human form with arms and legs finished in the round; the head or the mouth of the vessel represents two human faces looking in opposite directions; at the side, the vessel has the form of a duck, and the face and nose resemble somewhat the bill of a duck, the base of the vessel forming a sort of nest. The vessel shows considerable ingenuity in its double pattern, and at the same time great imitative skill.

Another image was found which had the head of a bear, the forehead being very low, the ears large, the eyes oval, but the form, or the body, represented the human figure in a squatting position, with arms folded. The image reminds us of those which were discovered in the island of Pensacola, in Lake Nicaragua. The Pensacola idols represented a tiger as seated upon a shaft or pillar. Other idols at Pensacola were in the human shape, surmounted by massive crocodiles, but no such idols have been found thus far in Costa Rica. This suggests the idea that Costa Rica and Nicaragua were settled by different tribes, and that they had different systems of religion, or at least different divinities which they worshiped, though idols abounded in both regions.

* This vessel was found at Orosi in a grave and is shown in Plate 58, Figs. 5, 6 and 7.

BOOK REVIEWS.

EXCAVACIONES EN LA CALLE DE ESCALERILLAS. Mexico: 1902. 4° pp. 58. Plates, folding plans, and text figures.

EXPLORACIONES DE MONTE ALBAN. Mexico: 1902. 4° pp. 37. Plates, plans, and text cuts.

VISITA A LOS MONUMENTOS ARQUEOLOGICOS DE "LA QUEMADA" ZACATECAS. Mexico: 1903. 4° pp. 43. Plates, folding diagrams, and plans.

TLALOC? Mexico: 1903. 4° pp. 19. Plates.

RECENT WORKS ON MEXICAN ARCHÆOLOGY.

Although there are several Mexicans, who are interested in their national archæology, practically the only one who is publishing at present is Leopoldo Batres, the official inspector and conservator of archæological monuments of the Mexican Republic. It is true that Dr. Peñafiel, at the Congress of Americanists in New York in 1902, presented an elaborate paper upon the finds in Escalerillas Street; if this has been printed we have not yet seen it. He continues to publish linguistic and hieroglyphic matter of interest and importance, but this is not general archæology. Señor Chavero continues giving out matter relative to ancient picture-writing, and Dr. Nicolás León publishes summaries and representations of what has been written regarding one and another tribe of Mexican Indians. We mean no criticism of any or all of this work—it is valuable and important—but it does not advance archæology in general, and it is work of the library and closet. And Mexico is so full of unknown, undescribed and uncollected material, that we ought to expect much field-work and many general studies. But, in these directions Señor Batres is almost the only worker. Four recent publications dealing with his work are before us for notice. All of them are printed by the Mexican government, and two of them were for presentation to the New York Congress already mentioned.

In the first of these, *Excavaciones en la Calle de las Escalerillas*, we have a detailed account of the remarkable finds that were made in the course of sewerage operations in Mexico in the year 1900. Señor Batres officially inspected these works, and as each object was found, note was made of its exact position; in many cases, the objects were photographed as they lay, immediately after being uncovered. The street of Escalerillas runs behind the present Cathedral, therefore close by the site of the famous great temple of the Aztecs. The excavations there brought to light an enormous number of articles that had been in the temple, or that were in some way associated with it. Some of these things were of forms before absolutely unknown; some were exceptionally fine examples of rare forms; many were, of course, extremely common things. Among the objects of interest was part of a great altar, composed of sculptured stones cemented together; this was sculptured over its four sides with skull and cross-bone decorations, which still retained abundant traces of white, black, and light green (blue?) paint. This altar was preserved as found and, with much labor, was removed to the National Museum. A small part of a second altar of the same kind was encountered; it was too incomplete to be transferred as it stood, but was of interest as showing, imbedded in its original construction, two of the curious carved cylinders of stone, which are called *Xiuhmolpilli*, "the knotting of the years," and symbolize the cycle of fifty-two years. A remarkable round tower of stone, with turreted crown, was

uncovered, which measured 1.90 m. in diameter; at 0.34 m. in depth it presented a sort of flooring of cement under which was found a mass of fragments of human bones. Among the many other articles were magnificent great ladle-censers of pottery, with long and hollow handles ending in serpent heads, bird-feet, etc., and with the bowls decorated with elaborate polychrome designs; idols made of copal; great sacrificial knives of flint; a cluster of objects of plain red pottery, representing the instruments of music and other objects used in dances, and intended probably for votive offerings (see my article *Notes on Mexican Musical Instruments; Past and Present; What was the Tecomapiloa?* American Antiquarian, 1903). These are but a few of the articles that were found. In his report Señor Batres does not attempt to describe the articles, nor to discuss their significance. He gives simply a day-to-day record of the finds, with a great number of illustrations reproduced from photographs. Most of these illustrations are groups of objects, the finds of a single day. A large diagram is presented at the close, which enables us to locate the exact spot where each object was found. Whatever work may hereafter be done upon this material, this simple record of the excavations will remain of the highest value and importance.

Monte Albán is of surpassing interest and has been repeatedly visited and inadequately described. When, with Baudelier's description in hand, we first visited it in 1894, we were so impressed with its magnitude and significance that we planned a serious investigation. This we later, unwisely, abandoned, because Prof. W. H. Holmes, then at the Field Columbian Museum, gave us the impression that his treatment of the place would be exhaustive. His panorama and description were valuable, but left almost as much of serious work to be done as before. No one did aught serious at Monte Albán, until Señor Batres made his *Exploraciones de Monte Albán*. In his report of that name we find a general description of the ruins, plans, and views of many of the sculptured slabs and other things of interest which he brought to light. One of the most valuable results of his work, is a new interest in the hieroglyphic system of the Zapotecs. In four plates Señor Batres brings together the characters, which occur in the sculptured slabs of Monte Albán; to these he adds a plate of characters from other localities in the Oaxaca Valley. This material is most interesting, and has heretofore been neglected. Its importance is further shown by the fact that, at the same Congress, where this work of Batres was presented, Dr. Nicolás León read a paper on practically the same subject.

Since the New York Congress Señor Batres has printed two further contributions to Mexican archaeology. The first of these is *Visita á los Monumentos arqueológicos de "La Quemada" Zacatecas* (Visit to the Archeological Monuments of "La Quemada" Zacatecas). These ruins, locally known as "Los edificios," are among the less known of the great Mexican monuments, although they are of very easy access. They lie not far from the town of Villa Nueva, about forty miles from the city of Zacatecas. A stage line running from Zacatecas to Villa Nueva, passes within sight of the ruins. In 1897, we spent several days at the locality. A natural ridge has been utilized and is practically covered with a mass of construction. Level platforms have been made, great curtains of masonry have been built up against the sides of the ridge, massive enclosure walls have been constructed; walls of buildings, altars, pyramids, an impressive "hall of columns," are grouped together upon the series of terraces thus secured and enclosed. From this rock ridge, with its elaborate system of constructions, well-built paved ways lead off in various directions. Señor Batres' visit was official, to arrange for the conservation of the ruins and to appoint a care taker for them. In his report, he presents a resumé of the descriptions of other travelers, and then presents his own description, with a plan and many views. The mode of construction at "La Quemada" is quite unlike that of the more famous ruins in Southern Mexico. The material is a local rock, that breaks into thin slabs of no great size. Great columns constructed with such material are strikingly unlike the monolithic columns of Mitla, for example. Señor Batres attributes these con-

structions to the Tarascans, and compares the architectural method with that of the *yacatas* of the Lake Patzcuaro region. He also continues his method of comparison of art representations with the existing physical type, and gives side by side pictures of two little clay figures and portraits of two Tarascan Indians.

In *Tlaloc?*, Senor Batres describes, more fully than has been done before, the remarkable stone figure of Coatlinchán, a place near Texcoco and not far from the City of Mexico. It is a monolith, measuring 7.0 metres in height, 4.41 metres in breadth, and 3.92 metres in thickness; the material is a hornblende andesite, and Senor Becerril, in a recent article, estimates the weight at 28 tons. It is certainly the largest known Mexican idol, and is perhaps the largest on the Continent. The workmanship is crude and the figure has suffered some mutilation. It has long lain flat upon its back and, until Senor Batres' excavations, was embedded somewhat in the soil. Near the foot of the statue there were disinterred some bones of a child and some little pottery objects. In Volume I. of *México á través de los Siglos*, Senor Chavero mentions this figure, identifying it as the Goddess Chalchiutlicue. Batres combats this identification, and claims that the figure is Tlaloc, the rain god. In support of this view he cites the dress of the figure, the *maxtlatl*, the fact of the child's bones and toys, and certain passages in Torquemada. The *maxtlatl* was an article of men's clothing, not of women's dress; children were the preferred sacrificial victims of Tlaloc; Torquemada states distinctly that there long stood upon this hill a statue of Tlaloc. The original statue was made of a white pumiceous stone; Nezahualpiltzintli, the famous Texcocan ruler, determined to replace this by a new figure of dark material; this figure was injured in transportation and, shortly after being set up, was damaged by lightning; assuming that the god thus showed his anger at the substitution, the dark figure was taken down and the white one replaced. Senor Batres believes that the great figure under consideration is the discarded dark statue made by the Texcocan ruler.

FREDERICK STARR.

* * *

HISTORY OF THE EXPEDITION UNDER THE COMMAND OF CAPTAIN'S LEWIS AND CLARK TO THE SOURCES OF THE MISSOURI; ACROSS THE ROCKY MOUNTAIN, DOWN THE COLUMBIA RIVER TO THE PACIFIC IN 1804-1806. A reprint of the edition of 1814, to which all the members of the expedition contributed. In three volumes, with maps. New York: A. S. Barnes & Co.; 1903.

The appearance of this book is timely, inasmuch as the great Exposition at St. Louis is in celebration of the event which opened up to American settlement all the region which was traversed by this company. The first volume contains a portrait of Capt. Merriwether Lewis; the second volume, a portrait of W. P. Clark.

One is surprised in reading the book to find that the region, notwithstanding the fact that it had been so long under the control of the Spanish and the French, was in reality what might be called a hostile territory. The inhabitants were not as hostile as were the tribes which De Soto visited on his expedition in 1530, 274 years previous. It will be remembered that De Soto and his army of courtiers passed over the Southeastern part of the same region and came in view of the vast plains, which stretch from the Missouri to the West. The description given of the region by these later explorers, shows that it had the same general character as had that through which De Soto traversed, though the Rocky Mountains intervened between the headwaters of these rivers and those that flow into the Pacific Ocean. It is surprising how much ignorance there was of the country, and especially the courses of the streams which flowed through it. The party were obliged to separate into bands, and the different bands explore the various branches, and then take the branch which seemed to be the longest and the most important. The same was true to a certain extent of the branches of the rivers beyond the mountains, to which the names of Lewis and Clark were given and which they still bear.

Another matter of surprise is that the tribes which occupied the region were so hostile to one another. It would seem that every little band of Indians, when overtaken by the party of explorers expected to be slaughtered, even before they knew that they were friendly whites. In fact, one great effort of Capt. Lewis was to convince the Indians that he was a white man, for they feared the Indians more than the white men. The tribes which then occupied the region differed from those which occupied the Mississippi Valley, and belonged to a different stock. We call them now the Apaches, the Arapahoes, the Shoshones, with a sprinkling of Cheyennes, the Ricarees, and other tribes of the Southwest.

It would seem that the social condition of these western Indians was even then much lower than was that of the Sioux and others of the same stock. The Minnetarees and the Assiniboines were less savage than those farther West, but with the Assiniboines drunkenness was very common; the women and children were permitted to share in the excesses. Among other tribes farther West there was a very low state of morals among the women; a state which has continued up to the present date and has marked itself conspicuously in the mythology which still prevails. This, in fact, is so vulgar and debased in its conceptions that a modest person hesitates to read the myths when printed, as some of them have been recently. This is strange, for the mythology of some of the Eastern tribes, such as the Chippewas, Dakotas and Iroquois, is very interesting and free from immoralities. The same is true of the Western tribes, such as the Navajoes, and especially the Pueblo tribes, such as the Zunis.

There is in the narrative a vast amount of detail which does not especially interest the reader, and yet it brings out the character and condition of the country, the nature of their habitations, and to a certain extent the material resources. It is, of course, not like the expeditions which have been recently sent over the same region, in which men who are specialists in geology, in botany, and in the various departments of natural science are put under the direction of some leader, and each makes the report in his own department. It does not contain the evidence of military training, and yet it is a fair report for the period and is instructive. There is no spirit of prophecy manifest, for the general impression at the time was that it was a God-forsaken country; and yet, when read by those who have known the wonderful development and resources of the region, a feeling arises, "Why was not I there to take possession and enjoy the advantages and benefit of its rise in value."

which showed a considerable advancement in art; they consisted of ornaments, bowls, tripods, circular discs, egg-shaped vessels, and vessels with conventionalized birds' heads.

Idols were found at Mercedes in such numbers and variety that the locality was called a stone cutter's working place, the ground was almost filled with discarded figures, mainly of idols or human images. The astonishing number of squatting figures called the Flute-blowing God, shows that this was a popular idol. Several flute-blowing idols were found in other localities, which confirms this supposition.

It is a strange coincidence that idols have been found in South Africa with flutes in their hands and skull caps on their heads though these idols are dressed in costumes, which show much more advancement in the textile arts. The flute was evidently a very favorite instrument among most of the rude races and was especially common in this region. Another



Fig. 6. PL. 53.



Fig. 3. PL. 56.

FLUTE PLAYER AND JAGUAR-SHAPED VASE.

flute-playing idol was found at Chircot. This was in a sitting posture, but had the same general features as those found at Mercedes. These images throw very little light upon the religious systems which prevailed, except that of idolatry, yet this is important in itself.

There are several articles in the collection which resemble those which are described by Mr. Holmes in his pamphlet. Among these we might mention Plate 56, Fig. 3, which represents a jaguar shaped vase made of basalt lava; the length, 24 5-10 centimeters. Plate 64, Fig. 2, is a flat vessel, which is made up of three separate bowls, or vases, with wide mouths; each vessel supported by a single leg, but all joined together by solid bands or necks. Just such vessels were found by Mr. Clarence Moore in Western Florida, and are described by him in his monograph. Plate 50, Fig. 2, resembles one which is described by Mr. Holmes. It represents a circular table of basalt lava, the top somewhat concave and adorned with knobs, and animal heads around the lower margin.



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THE NAVAHO ORIGIN LEGEND.

BY C. STANILAND WAKE.

A large portion of the extremely interesting work by Dr. Washington Matthews, published for the American Folk-Lore Society in 1897, on the legends of the Navaho, is occupied by the "Origin Legend" of this people. This story appears to be deserving of careful study, as it is typically American in its contents, not only containing many incidents as parts of a connected whole, which among other American tribes are related as separate stories, but giving a detailed account of the emergence from underground of the Dené (Navaho), which is the usual explanation of the appearance of men on the earth current among the Indian tribes.

The Navaho legend asserts that First Man and First Woman were created by four mysterious beings, who were the gods of the Mirage People, from two ears of corn; the white ear being changed into a man and the yellow ear into a woman. The event took place in the fourth world, which had already, however, other inhabitants. The legend actually begins with a description of the first world which was inhabited by twelve "people," which were different kinds of insects, including ants, dragon flies, beetles and locusts. Animals already existed, however, in the four oceans by which the world was surrounded, as we are told that the chief of the people in the eastern ocean was Tiéholtsodi, the Water God, who is probably the water monster of other Indian legends; that Blue Heron was chief of the western ocean; Frog of that in the south, and White Mountain Thunder chief of the ocean in the north. The insect people quarrelled among themselves, owing to many of the women committing adultery, one people with another, which led to their expulsion from the world by the Water God. He sends a flood which compels them to fly upwards. While they were circling round, a blue swallow thrust its head through a hole and called to them. They entered the hole and came out on the surface of the second world, which was inhabited by the Swallow People. The newcomers sent two

locusts to explore the land. They found it extended one day's travel, and was bounded by a great cliff that arose from an abyss whose bottom they could not see. It appeared to be without inhabitants and had no vegetation, and was bare, level ground. Soon, however, the Swallow People visited them and they all agreed to be friends, as though members of one tribe. They lived happily together for twenty-three days, when one of the Locust People took liberties with the wife of the Swallow chief. Thereupon they were told by the Swallows to leave, and they soared up to the sky, where they saw the face of Niltzi, the Wind, looking at them. He directed them to a place in the south where there was a hole, through which they passed and entered the third world. This world was yellow and was barren. Its only inhabitants were the Grasshopper People, who lived in the ground on the banks of a great river which flowed to the east. The Grasshoppers made friends with the people from the Insect World, but after twenty-three days the latter were compelled again to travel upwards, owing to the misconduct of one of them. Before they reached the sky they saw the head of Red Wind stuck out, and he told them to fly west. They found there a passage twisted like the tendril of a vine, which Red Wind had made. They flew up through the passage to the fourth world, accompanied by four grasshoppers,—white, blue, yellow and black ones, such as are now in the Navaho country. They saw four great snow-covered peaks, one in each of the four directions, but there was no sign of life. They sent couriers east, south, west and north successively, and those sent to the north reported that they had found a race of strange men, who had treated them very kindly. They lived in houses and cultivated fields by means of irrigation, and they cut their hair square in front. Some of the Kisáni (Pueblos), as this people were called, visited them next day and led them to a stream of red water, and showed them a square raft on which they could cross. The raft was made of four logs—a white pine, a blue spruce, a yellow pine and a black spruce. They crossed the stream and went to the Kisáni, who gave them corn and pumpkins to eat. They then held a council and decided to mend their manners for the future. In the autumn they were visited by four mysterious beings, White Body, Blue Body, Yellow Body and Black Body, who afterwards, as already mentioned, made First Man and First Woman. The gods made signs to them, which Black Body interpreted as meaning that they wanted to make more people, in form like themselves and not like the new comers, who had bodies like theirs, but the teeth, feet and claws of beasts and insects. Twelve days past and the gods came again bringing two sacred buckskins and two ears of corn—one yellow, one white,—each covered at the end completely with grains. The following is the account of the creation of First Man and First Woman, as given by the legend:

"The gods laid one buckskin on the ground with the head to the west; on this they placed the two ears of corn, with their tips to the east, and over the corn they spread the other buckskin, with its head to the east; under the white ear they put the feather of a white eagle, under the yellow ear the feather of a yellow eagle. Then they told the people to stand at a distance and allow the wind to enter. The white wind blew from the east, and the yellow wind blew from the west, between the skins. While the wind was blowing, eight of the Mirage People came and walked around the objects on the ground four times, and as they walked the eagle feathers, whose tips protruded from between the buckskins, were seen to move. When the Mirage People had finished their walk, the upper buckskin was lifted,—the ears of corn had disappeared; a man and a woman lay there in their stead."*

The gods then directed the people to make an enclosure of brushwood for the man and woman, who entered it and were told to live together as husband and wife. At the end of four days twins were born, who are described as being hermaphrodites. In four days more a boy and a girl were born, and they attained maturity in four days and became husband and wife. Three other pairs were born to First Man and First Woman, making five in all. The gods took the parents, and afterwards the children, to the mountain in the east and kept them four days, during which time they appear to have been taught how to pray for rain and abundant crops, and also the secrets of witchcraft. On their return the brothers and sisters separated and afterwards they married Mirage People. The women soon had many descendants, as they bore children rapidly, and their offspring attained maturity quickly. They made a great farm, with a dam and irrigating ditch, which they set the two hermaphrodites to watch. When First Man and First Woman, with their descendants, had lived in the fourth world eight years, they saw the earth and the sky move towards each other and, as they touched, the coyote and the badger sprang out of the earth. The coyote came to the camp and skulked around, but the badger went into the hole that led to the lower world. Sometime afterwards First Man had a quarrel with his wife, and he determined to take all the men with him over the stream, leaving the women alone. They remained separated four years, and then the men had more food than they could eat and the women were starving. Then, at the entreaty of the women, First Man sent for the women, who were all conveyed across the stream, except a woman and her two daughters. These three attempted to swim across in the dark. The mother succeeded, but the daughters disappeared. They had been stolen by the Water God, but the gods White Body and Blue Body, with a man and a woman, went down into the water with

* According to the mythology of the Quiche of Guatemala the first created men were made of yellow and white maize.

the aid of two bowls, to the house of Tiéholtsodi, where they found the girls and also two children of his own. They had been followed by Coyote, and when they went away with the girls he carried off Tiéholtsodi's two children under his robe. Next day the people were surprised to see animals coming into the camp for refuge, and four days afterwards a great flood came rolling rapidly toward them. From this they were saved by means of a great reed, grown from thirty-two reeds planted by the son of a stranger, who appeared carrying under his robe earth from the seven sacred mountains. The people entered the reed by an opening which was then closed up. The reed grew until it reached the sky, in which a hole was made by a locust, after Great Hawk had failed. When Locust returned he related that he found himself on a little island, in the centre of a lake, where he was approached by four grebes of different colors, one from each of the four directions, who told him that they owned the world, but he should have half of it, if he could do as they did. They passed an arrow of black wind through their hearts, and on Locust doing the same they went away. The hole made by Locust was too small, however, and Badger was sent up to make it larger. Then First Man and First Woman, followed by the others, climbed up through the hole to the surface of the fifth world. Here they found themselves on an island, which they nearly drained by the breaking of holes in the surrounding cliffs by means of stones thrown by Blue Body. It is remarked that when they reached the mainland they sought to divine their fate. Some one threw a hide scraper into the water, saying, "If it sinks, we perish; if it floats, we live." It floated and the people rejoiced. But Coyote picked up a stone and threw it into the water, saying, "If it sinks, we perish; if it floats, we live." It sank and they were very angry with him. He replied and said: "If we all live, and continue to increase as we have done, the earth will soon be too small to hold us, and there will be no room for the cornfields. It is better that each of us should live but a time on this earth and then leave and make room for our children." This condemnation of man to death is accredited to Coyote, or his equivalent, in the legends of many Indian tribes. Meanwhile the flood the people had escaped from was rising through the hole by which they had reached the fifth world, and First Man, suspecting that there was something wrong about Coyote, directed him to be searched. His robe was torn from his shoulders and out of it dropped the young of the Water God, looking like buffalo calves,* spotted all over in various colors. These were at once thrown into the hole and immediately the waters subsided.

Some of the Kisáni had accompanied the people from the fourth world, and they had brought with them an ear of corn for seed. This they agreed to divide with the others, but when

* This agrees with the description of the water monster given in the stories of some of the other tribes.

it was broken in two, Coyote seized the tip end of the ear and ran away with it. The Kisáni kept the butt, and this is why the Pueblo have better crops of corn than the Navaho. Then the Kisáni moved away, as they were alarmed at the threats of the other people. Hence the Pueblo and the Navaho now live apart.

The legend now relates various extraordinary incidents. The seven sacred mountains of the present Navaho country were made with earth brought from the similar mountains in the fourth world. The sun and the moon were made, and the former was given in charge to the man who had planted the great cane or reed in the fourth world, the moon being placed in charge of an old man, who had there joined them. The people then began to travel, and at four places where they camped were born monsters, which were "the fruit of the transgressions of the women in the fourth world when they separated from the men." It is said that other monsters were born on the march, while others "sprang from the blood which had been shed during the birth of the first monsters, and all these grew up to become enemies and destroyers of the people." In their wandering the people came to Kěntyél (Broad House) in the Chaco Cañon. The erection of this building is ascribed to a gambling god named Nohoilpi, who had descended among the Pueblo and had as a talisman a piece of turquoise. He won first their property, then their women and children, and then some of the men, to whom he said he would give them part of their property back, if they would build him a great house. This was being built when the Navaho came to the place. The gambler afterwards won other Pueblo, with their property, and the great house was soon finished. The other gods were annoyed with Nohoilpi, because he had refused to give to the sun two great shells which he had won from the Pueblo people. They determined to ruin him through the agency of another gambler to be aided by themselves. First, however, they wished to know how Nohoilpi felt about refusing to part with the shells, and they sent Darkness to find out. Darkness went to the gambler's room, entered his body and searched his mind, and on his return reported that he was sorry for what he had done. This was confirmed by Wind, who doubted whether Darkness had spoken the truth. Nevertheless various indoor and outdoor games were played, in all of which Nohoilpi was defeated by his opponent, by the connivance of the gods and the aid of various animals. The gambler lost himself, his wives and all his possessions. The two great shells were given to the sun, and when Nohoilpi cursed his enemies, the Victor, who had a magic bow, called the Bow of Darkness, ordered him to stand on the string and he was shot up into the sky as far as the house of the god who carries the moon, and who, says Dr. Matthews is supposed to be the same as the God of the Americans. The Moon god made a new people and sent him down

to Old Mexico, where he ruled over them and became the God of the Mexicans.

The legend relates a number of adventures of Mai, the coyote, who had married a Navaho woman, some of which will be recognized as being widely spread among the Western Indians, under slightly varying forms. The following story may be given as a specimen: Coyote goes to visit Porcupine, who rubbed his nose with a piece of bark until the blood flowed over it. He then put it on the fire, and when roasted, it was a piece of meat. Coyote enjoyed this much and invited Porcupine to make a return visit. He did so, and Coyote tried to imitate him in obtaining roast meat. Coyote fails, however, and Porcupine has to go home hungry.

We are now introduced to the two Navaho war gods. They are the sons of the two divine sisters, Estsántlehi and Volkai Estsan. At the end of four days they are the size of ordinary boys of twelve years of age. They contend with the gods who created them in a race, and are the winners. Their mothers make them bows and arrows, with which they shoot at the birds which act as spies for the *anáyé* or alien gods. Soon these monsters come towards the women's lodge, but the two boys go off on a "holy trail." They come to the abode of Spider Woman, who gives them charms against four places of danger—the rocks that crush the traveller, the reeds that cut him to pieces, the cave cactuses that tear him to pieces, the boiling sands that overwhelm him. They pass through these dangers in safety, and after passing by its animal and other sentinels reach the house of the Sun-god, Tsóhanoai. The Sun-god refuses to accept them as his children until he has put them to the test. When satisfied with them, he asks what they want. They reply that they want his help to destroy the *anáyé*, who have eaten nearly all the people. He then gives them clothing of *pes* (iron or knives), lightning and other arrows, and a great stone knife club. Tsóhanabi takes them to the edge of the world and, renewing his promises of aid, shoots them down on a streak of lightning to the top of Mt. San Mateo. The brothers first encounter the giant Yéitso, whom, after a terrible conflict, they slay. The wielder of the lightning arrows is Nayénézani, the elder brother, who now goes alone in search of Teelgét, a great four-footed beast with horns like those of a deer. The gopher, Nasizi, bores four tunnels for the hero to hide in, and a shaft from one of them to the monster's heart. Nayénézani sees the heart beating, and discharges at it his arrows of chain lightning, running at once into another tunnel. The monster rips up each tunnel in succession, but falls dead at the last one. After slaying other *ayánc*, the brothers again visit Tsóhanoai, who is now called the "bearer of the sun," to ask his further aid. This he promises on condition that they will send Estsána'lehi to the west to make a home for him. Nayénézani promises, and they receive various things to take to

her. The hero gives the things to his mother, and then goes again in search of the destroyers of his kind. He finds them changed, however, and his career as a slayer of the alien gods comes to an end. His mother accompanies the Sun god to the west, taking with her many animals he made for her. With the concluding portion of the legend, which treats of the growth of the Navaho Nation, we have here no concern, but it is full of interest and throws much light on the wanderings of the people.

A MAGICAL AND MEDICAL PAPYRUS OF THE THIRD CENTURY.*

BY JOSEPH OFFORD.

All students of the history of medicine in early times are aware how intimately it was associated with magic and Shamanistic practices. A valuable specimen of this mingling of these, happily now widely severed practices, is afforded by the "Demotic Magical Papyrus" just published by Messrs. F. L. Griffith and Herbert Thompson.

Unfortunately for science, whilst containing a multiplicity of magic, it presents but a modicum of medicine, and that of a very inferior description, but such as it is, it deserves mention. Though by its new editors entitled a "Demotic Papyrus" some short passages of the manuscript are written in Hieratic and Greek. Some portions of it appear to be translated from the Greek, whilst others are from an Egyptian dialect more ancient than the early Coptic into which the greater part of the treatise is rendered.

The papyrus dates from the third century A. D. and is in comparatively good preservation; a matter for congratulation, for our present knowledge of Demotic script is so slight, that unless a manuscript engrossed in it is very clear, it could not be correctly interpreted. Its twenty-nine chapters are almost all devoted to incantations and invocations of the most puerile character; the majority of them having erotic objects in view. Divination has its place mostly by means of lamps and vessels, frequently aided by a human medium, generally a boy. Some divinations are by the sun and moon, but this work does not provide any stellar or astrological formulæ. Various incantations are for curing the bites of poisonous reptiles and dogs. There is a short list of plant names, useful to botanists and philologists, as giving the Coptic and, therefore, probably the ancient Egyptian titles of certain species, in contact with their Greek names.

The first items of a medical nature occur in Chapter xxiv. among recipes for "drugging a person." The ingredients

* *The Demotic Magical Papyrus of London and Leyden*, edited by F. L. Griffith and Herbert Thompson. New York and London: F. Revel & Co.

recommended for the purpose are scammony (convolvulus root), one drachm; opium, one drachm; mixed with milk. A second formula advises, mandragora root, one ounce; liquorice, one ounce; hyoscyamus (henbane), one ounce; ivy, one ounce; to be given in wine. The author apparently apprehended possible error in selecting the ivy leaves, and therefore appends a botanical description of the plant, saying: "Ivy, it grows in gardens; its leaf is divided into three lobes, like a vine leaf; its leaf is one palm in measurement; its blossom like silver," another says "gold." This last statement may have arisen from the identification terms having been derived from some very ancient Egyptian document, for in antiquity in Egypt, silver was called "white gold."

A recipe in some supplementary columns of writing upon the *recto* of the papyrus, is a cure recommended for the gout. Its contents are: one measure of Euphorbia; a half measure of pepper; one measure of "pyrethrum," probably an umbellifer, viz., burning to the taste; one measure of adarces, and one of sulphur; to be pounded together, mixed with wine and oil, and applied to the painful region of the body. Some of these ingredients occur in a prescription for gout preserved in a medical work by the famous physician, Alexander of Tralles; viz., spurge, pepper, pyrethrum and adarces. Dioscorides also mentions pyrethrum.

Column 2 of the reverse side contains remedies for a sprained foot; one consisting of garlic, frankincense and oil, macerated together, applied as an ointment, and then the foot to be bathed with cold water.

Some paragraphs are occupied with diseases of the eyes, but the remedies proposed do not appear likely to have been beneficial. One, after advising various verbal spells, prescribes a collyrium of oil, salt and nasturtium seed. The Coptic word for this last, in its Sahidic dialect form, is identical with the "Kardamon" of Dioscorides.

In all this class of papyri the names of the demons, deities, or spirits invoked are generally the merest gibberish, but one in this document—Erishkigal—is evidently the ancient Babylonian Persephone; Erish-ki-gal, a name recently recovered by means of the cuneiform inscriptions, but which it is now apparent was known in Greco-Roman-Egypt. The goddess is alluded to in the fragmentary mythological cuneiform tablet found at Tel el-Amarna, and so may have been familiarized in Egypt in the time of Amenophis III. and IV.

THE TEN TEMPLES OF ABYDOS.

BY W. M. FLINDERS PETRIE.

[First Published in the Egyptian Gazette.]

For the first time, the whole history of one of the great national sites of Egypt has been opened before us; dating from the beginning of the kingdom, and ending with almost the last of its native kings,—from Mena about 4700 B. C., to Nekht-hor-heb, 370 B. C. History is here laid out before us in strata, from which the past can be read as we lift them away one from another.

In order to read, however, one must know the alphabet of the subject; and that has only lately been learnt, from the pottery, the flints, the beads, which show, each, the age to which they belong. Excavation on a site with a long history is mere destruction if each stratum is not read and interpreted intelligibly as it is opened; unfortunately, this has never been done before on any such site. On the earliest sacred site of Abydos, the first capital of Egypt, temples had been piled one on the ruins of another, until ten ages of building stood stacked together in about twenty feet depth of ruins. Each temple had become partly ruined after a few centuries, and then at last was pulled down, leaving a foot or two of the walls and foundations; and a new temple of a different plan was then erected on the ground. America is not old enough for this to be done even once; but London stands on a mound of over twenty feet of ruins, from which its past will some day be read as we now read that of Egypt.

The earlier temples were all of mud brick. Stone first appears for the doorways of the fourth temple, that of the sixth dynasty, about 3400 B. C. Sculptured stone walls are found of the eleventh dynasty; and walls were wholly of stone in the twelfth dynasty, about 2700 B. C., and in the later temples. These buildings of the well-known historic times are, however, of much less importance to us than the earlier temples, which yield us fresh views of the civilization to which they belong.

About the middle of the second dynasty, say, 4300 B. C., a clearance of the temple offering was made, and hundreds of small objects more or less injured were thrown into a disused chamber, which served as a rubbish-hole and was later buried under fifteen feet of ruins. The contents of this chamber were old and disregarded at that time; and as the first king has been found close by at the same level, it seems that we should refer the contents of this limbo to the first dynasty,

THE VASE OF MENA.

Groping in the thick brown organic mud of this rubbish-hole, I lifted out one by one the priceless examples of glazed work and ivory of this earliest age of great art—an art of which we had never understood the excellence from the traces hitherto known. The ivory was sadly rotted, and could scarcely be lifted, without dropping asunder in flakes. So when I found that I had touched a piece, it was left, until at last a patch of ground was left where several pieces of ivory had been observed. Cutting deep around this, I detached the whole block of sixty or eighty pounds of earth, and had it removed on a tray to my storeroom. There it dried gradually for two or three weeks; and then with a camel's-hair paint-brush I began to gently dissect it and trace the ivory figures. Not a single piece was broken or spoilt by thus working it out, and noble figures of lions, a bear, a large ape, and several boys came gradually to light. Suddenly a patterned robe and then a marvellous face appeared in the dust, and there came forth from his six-thousand-year sleep one of the finest portrait figures that has ever been seen. A single photograph can give but little idea of the subtlety of the face and the expression, which changes with every fresh light in which it is seen.

THE CROWN OF UPPER EGYPT.

Wearing the crown of Upper Egypt and clad in his thick embroidered robe, this old king, wily yet feeble with the weight of years, stands for the diplomacy and statecraft of the oldest civilized kingdom that we know. No later artist of Egypt, no Roman portrait-maker, no Renaissance Italian, has outdone the truth and expression of this oldest royal portrait, coming from the first dynasty of Egypt. The simplicity and lack of pretension are almost baffling; it does not claim any idealism or beauty, it scarcely seems to intend to be so fine or powerful, and yet it appeals equally to the first artists and to the ordinary man. No other object has so generally compelled the admiration of visitors in any of our annual exhibitions.

That this did not stand alone as a stray phenomenon is seen by the group of other ivories, of which we may instance a very small one of a woman, which shows the same character of work in simplicity and directness, and in the perfectly natural expression of the statuettes. Among other figures discovered, those of boys, standing, walking, and seated, are all true and unconventional in form, and show firm and accurate modelling. A little bear seated on the ground and couchant lions and a mastiff show that animals were studied and understood as well as men. We must now grant in future that a complete art had arisen nearly seven thousand years ago, and that it has seldom been equalled and hardly ever surpassed in the five fresh births of art which have occupied the course of human history.

Nor was the skill of technical work neglected. The abundance of vases and bowls, cut from the hardest and most refractory materials,—granite, syenite, porphyry, rock-crystal, and obsidian,—which we found in the royal tombs of this age, show a taste and ability for fine material and work which was never equalled in later times. And the mastery of glazing provided large vases with the royal name inlaid. This was part of a globular vase, eight inches wide, of green glaze, with the royal hawk name inlaid with purple glaze. Here we have the property of the oldest king in the world, whose name is preserved by history—M-na, the first king of the first dynasty of Egypt. This vase must have been handled by this figurehead of all monarchy, and almost certainly was dedicated by him in the primitive temple of the capital.

Strange, indeed, it is to look on so personal a link, and to think that the whole sum of what we know as human experience has come and gone since this was last worthily handled; the pyramids, Thothmes, Rameses, the Greek, the Roman, the Northmen, all were unthought of when this last saw the light.

The use of colored glazes was also carried out on a great scale for wall decoration. Thick tiles, a foot high and half as wide, were made, fully glazed in green on both sides, and provided with a deep keying on the back, and grooves to hold thick copper wires to thread them together, so that one could not be lifted without moving those on either side. The surface was ribbed to represent papyrus stems; and there was a band of tiles of papyrus heads along the top of the stem tiles. This glazed tiling was also made in a great variety of sizes and patterns—some ribbed, some fluted, some plain, some inlaid with inscriptions, and others copied from matwork design. Another light on the architecture is given by the glazed vases copied from the lotus capitals, showing that such a form was already in use. The complete capital is of green glaze with purple spots, the same polychrome as the Mena vase, and probably from the same factory. The form of the top, with a slightly raised disk, is evidently copied from the architectural detail of a capital. The other work in glazed pottery is of great variety. Figures of men, women and children, captives and servants; figures of baboons innumerable, of various quadrupeds and birds; model vases and shrines; toggles for fastening the dress, and beads of many forms—all subjects came alike to the ready hand of this early potter. He modelled the forms in the siliceous paste, and then covered them with the hard coat of glaze which binds the material firmly together, and which has in many pieces even kept its color after thousands of years in wet ground.

An entirely new class of glaze work is the tile with relief designs and inscriptions. One whole tile I picked out of the mud, which has a figure of an aboriginal negro chief, and his name and locality. This proves of particular interest, as he

belonged to the "fortress of the Anu," a people with whom the early Egyptians were continually at war, and the day of whose destruction was a yearly festival down to late times. From this tile we now know that the Anu were the negro races of the southern border, which the Egyptians had such difficulty in holding back. The Sudan question is as old as the beginning of history.

In another chamber we found a large number of sacred figures, which had been carefully put away when thought too rude for the devotions of more civilized times. Few, if any, were as late in style as those which I had taken out of the mud in the great rubbish-pit; and judging from that, and their resemblance to figures found some years ago at Hierakonpolis, it is probable that these are as early or earlier than the age of Mena, and so touch the close of the prehistoric time. The most curious, and probably the oldest, objects here were some very elementary figures of baboons, and other purely natural stones. The figures of baboons are very slightly worked. Rude lumps of limestone had been picked up, having a slight resemblance to the form of the animal; and then a little pounding away of the surface had improved them into an unmistakable connection, helped in some cases by a few scores scraped with a flint. The first of these is only pounded, like an Easter Island idol; the second is the most improved, by scratching a mouth and eyes; the third and fifth have only a broad groove hammered to divide the head from the body and mark the snout. And we see in the fourth a natural flint selected for its resemblance to the baboon, and slightly improved by knocking off a few awkward projections; there can be no question as to the intention of placing this flint with the other elementary figures; they were all alike kept in honor of the sacred cynocephalus baboon. But with these figures, which are seven or eight inches high, there were two much larger flints, two or three feet high. They were set upright in the chamber, and had evidently been selected, out on the desert, a mile or more away, and brought into the temple, associated with the very primitive baboon figures, and placed on end with them. All this attention to them is only explained by looking at their resemblance to animal forms. In the first one we see a quadruped on its hind legs, the head having been lost at the break on the top. In the second stone there is the baboon form tolerably evident.

We cannot but see here the primitive fetish stones, such as the Papuan will now collect and reverence. Thus we touch the Egyptian behind all art and civilization, back in the time when the stray resemblances of nature caught the attention of the mind as yet untrained to disentangle the connections of things. That mind is by no means now extinct; the coat of arms of cardinals are quoted in telegrams as forecasts of their probable papacy, in accord with a supposed prophecy, and the

name of a ship is supposed to link its fate with that of its namesake. Most men pick up their fetish stones by the wayside in life, and imagine connections which strike their fancy.

But these stones, found far below the polished statues of an Egyptian temple, open our eyes to the source of sculpture. We see here that man did not first sit down with a block of stone and determine to carve some figure, but he picked up some strange weird form that seemed as if it must be something else than all the rest of the stones around; he treasured it, venerated it, improved it so as to piously help nature; and little by little he became bolder, until the finished statue did not even need the least resemblance of the block to start with. I envy the glow of the first man who saw that any stone would do, and that he need not be the servant of nature and only adopt what was indicated to him. Such are the glimpses of the rise of art which these stones give us; but these were by no means the earliest examples of such notions, as prehistoric man in Egypt had long existed, though here we touch a survival of the primitive ideas in these rude untouched fetish stones set up in the first temple of Abydos.

THE CAMEL IN EGYPTIAN HISTORY.

In the same chamber with these early sculptures we found also a modelled pottery head of a camel. So far this animal was unknown in early times in Egypt. Not a single figure of or allusion to the camel is found there before Greek times, although familiar in Syria from the days of Abraham. Here we find that at least in the first dynasty the camel was known to the Egyptians.

A similar throw-back in history occurs when we find a piece of iron in a bundle of copper tools of the sixth dynasty, or about 3400 B. C. Hitherto not a scrap of iron had been found which could be certainly dated before 1000 B. C. in Egypt, and it was not in familiar use till Greek times. But we see now that in some way the Egyptians got a bit of iron, apparently only worked into a wedge, two or three thousand years earlier.

It is not only the history of Egypt that we recover deep down in its ruins, but also that of Europe. Some years ago I found foreign pottery in the prehistoric time, and the earliest stage of painted Greek pottery in the royal tombs of the first dynasty. Now, of the same age, we find in the temple a whole class of black pottery which is not Egyptian and is clearly Greek in its forms. I took a piece of it in my pocket to Crete; and there, on the terrace of Dr. Evans' house at Knossos, I picked up the exact parallel to it, undistinguishable in color, material, and polish. Unfortunately the Cretan pieces are much broken, and the forms have not been yet restored for comparison with the amphora and bottle which I found; but more than a dozen black bowls from the temple are like those of Crete. As to the age, this pottery belongs to the late neolithic period

in Crete, which must be of 4000 B. C., or earlier, in good accord with the Egyptian date of about 4500 B. C. for this class of pottery. It is only by thus connecting the early dawn of Europe with the more complete history of Egypt that we can recover more of our own past, and trace surely the various steps by which our present civilization has been built up. To understand the action of the present time, to grasp the meaning of the tendencies of its religion, its politics, and its life, without knowing the stages by which it has grown, is as ineffective as to look at geography without the geology which has determined it and which controls it. Just as the strata below preserve to geography of the past, and have formed and will yet regulate in future the surroundings of mankind, so the past civilizations have formed the social present, and will yet control the future of man.

THE PERSONALITY OF CHEOPS.

We come down now from this beginning of the high civilization, which is only now brought before us, and some eight centuries later we meet, at 4000 B. C., a name which has never fallen into oblivion, but has kept its place as that of one of the leading figures of history. By the pen of Herodotus the personality of Cheops has passed over from the wreck of Egyptian literature, safe and sound into the Greek world, and so to our days. The character of this great and masterful ruler is the oldest that has been handed down in the memory of every generation since his time. In all ages to offend a priesthood is a sure title to infamy; and whether it be Cheops or Manasseh, Leo the Iconoclast or Henry II., the result is the same. In this light must we read the history of Cheops, who is said to have "abandoned himself to every kind of depravity. He closed all the temples, forbade the Egyptians to offer sacrifices, and ordered them all to work for himself," as Herodotus records. Manetho likewise says that "he was supercilious to the gods," but adds, strangely, that he "wrote the sacred book which is greatly valued by the Egyptians." This apparent contradiction shows how we are to read the abuse which precedes it. Of the depravity there is no evidence beyond a confiscation of religious endowments; of his real religion there is the proof that he edited or wrote a work which was valued in ages afterwards, and the temples of Bubastis, of Koptos, and of Denderah, all show him as a religious founder. Hitherto we have had no portrait to enable us to judge the man as an acquaintance, to estimate his abilities, his ideas, and his nature; and he has remained an enigma which no historian has fully understood.

At last we can look into his character face to face. In one of the storerooms of the temple of Abydos many figures had been thrown aside, probably in the sixth dynasty. Those of wood had entirely decayed, and mere films of painted stucco were left in the earth; but one little figure of ivory about three

inches high had preserved its original polish almost complete. The workmen in digging had broken the head off, and brought me the figure headless. When I cleaned it, and found the Horus name of Cheops (Khufu) upon the throne, it was evident that no trouble was too great to recover the head—the only portrait of one of the greatest kings. I anxiously inquired of all the boys where they had thrown the earth, and marked out the possible limits of our search; and then began a sifting of every morsel, in order to find a piece no bigger than the tip of the little finger. A whole day the boys sifted, and day after day they went on sifting a great bank of earth; one week passed, and then another; but at the end of the third week of incessant sifting the precious face was found in perfect state, and the next day the back of the head completed the figure, and Khufu once more sat in all his dignity before us.

We can now study the nature of this great monarch. The first thing that strikes us is the enormous driving-power of the man, the ruling nature which it seems impossible to resist, the determination which is above all constraint and all opposition. As far as force of will goes, the strongest characters in history would look pliable in his presence. When we analyze it we see the ideality of the upper part of the face—the far look in the eyes, and the high cheek-bone; the expression of conception and construction and the attaining of great ends. And when we look below, to the mouth and jaw, we feel the terrific force which carried forward his ideals, the all-compelling power to which no man could say nay. There is no face quite parallel to this in all the portraits we know,—Egyptian, Greek, Roman or modern.

FACE TO FACE WITH KHUFU.

Face to face with Khufu we can better understand the record that we have of his acts. No doubt such a man, with great ideals and unlimited strength of will, did many unpleasants things; but the sight of such a face wipes away any such notion of personal baseness or evil nature. And this reform and economic revolution was the step toward the resumption of the wealth of the country by the state. The king was all in all to the Egyptians—lawgiver, administrator, organizer, general, high priest; and after putting an end to the wasteful service of the religion, "he made them all work for himself." The name of Khufu still remains at some of the great temples, at a vast quarry of alabaster, on the rocks of Sinai, and above all at the Great Pyramid of Ghizeh, which is the greatest mass of masonry and contains some of the most accurate work that has ever been put together by mortal man. Such were the triumphant results of this ruling will, of which we now see the living expression set before us.

The accounts of the reign of Khufu have been slighted by some writers as improbable. But this year an entire confirma-

tion was found in excavating the temples at Abydos. At the bottom of all was a temple of the first dynasty; above that another temple of the second dynasty; and then at the fourth dynasty there was a blank in the ruins, with no great walls or building, but only a hearth of vegetable ashes, among which were hundreds of little pottery offerings, without a single bone of a sacrifice. Here we actually saw before us the abolition of the temple and the sacrifices, and the substitution of the clay models of no value, in place of the costly offerings which had sustained the priesthood. After that the system of temples revived, and increased in cost and grandeur to the end of the history. But the political economy of Khufu stood revealed, and Herodotus was vindicated,

Rows of pits are sunk, and the earth thrown out, until buildings are reached, and then each wall is followed and traced, and one structure below another is cleared, until all the past history of the series of temples is exposed, and every fragment has been transferred to the plans which permanently secure the facts.

More than four thousand measurements and a thousand levels were taken to unravel the history of these temples of Abydos; and every day I was cutting sections of the earth with trowel and knife to trace in the mud soil the course of the mud-brick walls. The pillager merely in search of antiquities would find only two or three dozen inscribed stones and much worthless pottery; but for the historian and archæologist there was the history of the land for four thousand years in that twenty feet of ruins. I have to thank England and America equally for enabling these discoveries to be carried on by means of the Egyptian Exploration Fund, in the publication of which the detailed results are given.

PERSONAL DIVINITIES AND NATURE POWERS IN AMERICA.

BY STEPHEN D. PEET, PH. D.

We have passed in review the different aboriginal religions of America, and come at last to the one that seems the most important of all, viz.: the worship of the personal divinities in combination with the nature powers. We use the double title because some have doubted whether the element of personality was strong enough to be used alone, and because the worship of the Nature powers is so prominent, and especially be cause of the analogies which may be drawn between the personal gods of this continent and those which are worshiped in Oriental lands. We claim, however, that there was a combination of the two in the religious cult of the civilized tribes, and that personal gods were worshiped, and eclipsed the worship of the Nature powers so as to be distinguished from them, each one being worshiped by religious rites which were distinctive. The objects of worship arranged according to their order of progress are as follows: 1, Animal totems; 2, the Nature powers, including the sun, moon, stars, and the points of the compass, and the elements, such as fire, water, earth and air; 3, the "Culture heroes," these were partly natural and partly supernatural, but were worshiped as the heroes or chief divinities of certain tribes; 4, the Law-givers, these were represented as human persons, who appeared and gave laws and established governments, but disappeared; 5, last of all were the personal gods. These received personal names and were worshiped as personal gods, though they had different spheres of action. Chief among them were the God of Peace, the God of War, the God of Death, also the goddesses of maternity and the gods and goddesses that represented the elements.

It is well known that the gods of the Greeks, Romans, Babylonians, and Assyrians were primarily the representatives of the Nature powers, but personal attributes were ascribed to them. We think of them only as personal gods and fail to draw the analogy. Such is the case with the older gods of the Greeks, for Uranus is always represented as dwelling above in the skies and as the supreme ruler of the universe, and in him we recognize the natural and personal attributes. The same is the case with the Egyptian divinities of which Isis and Osiris were the chief. Isis was called the mother goddess, for she was the mother of Horus, but many of the Egyptian divinities were only personifications of the Nature powers. This is shown by the story of Osiris. He was slain by Typho, his body was divided into twelve parts and thrown into

the sea, but was gathered and hidden in the tree at Biblos. The parts symbolized the twelve months of the year, and the overflow of the Nile, and the hiding in the tree symbolized the part which water has in the growth of the tree. The most suggestive feature in the story is that Isis finally discovers the eleven parts of Osiris, and puts them together and restores them to life, only one part being left off; thus symbolizing the resurrection of nature in the spring time. In like manner the gods of the Babylonians are seen to represent the Nature powers, though they are so personified that we forget this, and are interested only in their personal character and career. There were, to be sure, in Babylonia, three periods which were so near together, that the worship of the Nature powers and the personal divinities and the human characters, called the Law-Givers, became blended, and yet if we study them more carefully we find they represent three classes, and belong to three distinct periods.

In America we find the distinctions between the personal gods, the Law-givers, and the Nature powers so dim that we fail to separate them, and either regard them all as personifications of nature, or consider them as personal divinities ruling over all, and at times think of them only as human teachers, strange visitors from a foreign land, though the moral character of the divinities fall far below that of other Law-givers and human founders of religion.

In the Scriptures the case is different, for from the first chapter to the last, the personality of God is brought out clearly, and there is no reference whatever to the Nature powers, nor even the blending of the Law-giver with the personal divinity. This constitutes the difference between the Scriptures and all pagan writings, for notwithstanding that there are many sacred books among the pagans, we do not fail to recognize in them the operations of nature as the basis of all. There were many great masters who came in and established systems which became the standards of thought, but these were evidently human, and had a human history, though some of them have been deified, so that we regard them as the divinities of the people, and yet they were only human beings. Some have stumbled over these, and have imagined that the personal gods of America were actual persons who came to America from some other land, and they point out the fact that the chief god is represented as white, having long hair, and wearing a robe assuming that he was some unknown visitor from Oriental countries.

Now the resemblance between the personal gods of America and those of the Eastern lands, is a sufficient explanation of this. These gods all seem to be supernatural beings, but they were always connected with the natural objects which were known to the members of the particular tribes, and the worship of them was purely local. Still there was such a resemblance

between them that they seem to have been not merely the heroes of one tribe, but of entire stocks, and so they help us to understand aboriginal history.

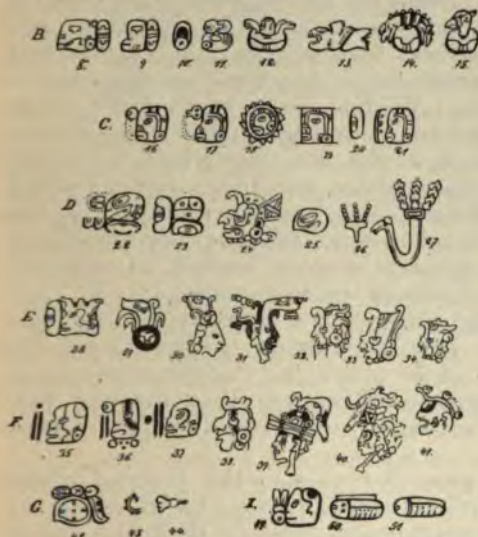
It is true that their personal history and character did bridge the distance which would naturally exist between a rude untrained mind and a spiritual unseen being, but there was an unconscious process that led the people to ascribe to them a supernatural character, for some of them are represented as having a high moral character and having established the religious system which prevailed.

We are to notice also that there were many Culture heroes in America, who represented the powers of nature, but could not have been human beings and certainly not persons known

to history. These Culture heroes were worshipped by the wild tribes and they were regarded as human, and yet they always had supernatural powers and accomplished wonderful things.

There is one remarkable fact about the Culture heroes, viz., they belonged to different stocks of Indians; the Algonquins having one, the Iroquois another, the Dakotas another, the Pueblo tribes, the mountain tribes of the far West, and the tribes situated in the North-west, still others.

It appears that the Culture heroes had become so scattered by the wanderings of certain tribes, that we find them far apart from one another and in scenes and surroundings to which they gradually became accustomed; thus proving that they belonged to stocks as well as tribes, and were carried by the tribes to their new habitations. This is an important point, for it throws light on the migrations of the Indian tribes, and confirms the position which the linguists have taken. To illustrate: the Algonquins were scattered from the coast of Maine to the south shore of Hudson's Bay, and from there to the region far west where the Blackfeet are found. They were



DIFFERENT CULTURE HEROES.*

* The cut represents the hieroglyphics of the deities, as made out by Dr. D. G. Brinton. The first line Itzamna; the second, the North Star; the third, the Moon God; the fourth, the Maize God; the fifth, the War God; the sixth, the Sun God.

also scattered along the Atlantic coast as far south as the Potomac; their habitat being mainly on both sides of the chain of the Great Lakes and north of the Ohio River, but stretching down the Atlantic coast. The study of myths and symbols, as well as the language, has confirmed this.

The Iroquois are supposed to have belonged to the same stock as the Cherokees, and perhaps with the same stock as the Dakotas; the study of the language giving rise to this theory. The study of the myths and the symbols of these different tribes rather confirms the opinion of the linguists, though the change of the scenery and surroundings have modified their mythology. The same is true of the tribes which were situated on the Pacific coast. Some of the linguists think that the tribes of the Southwest came down from the Northwest and settled in the central provinces, but developed their mythology from the same sources, and claim that their languages have many features in common. We find, however, that the tribes on the Northwest coast have a mythology entirely different from that of the Southwest, as the divinities which they worshipped were the raven, bear, whale, and other animals which abound in the forests of the North, but the divinities of the civilized tribes were personal beings, and were represented by idols which were covered with a great variety of symbols.

This conformity of religion to the surroundings is also illustrated in the case of the tribes of the deep interior, for here the mythology is drawn from the mountains and rocks, the Navajoes having one set of divinities, the Pueblos another set, the wild tribes of the region another set, thus showing that tribal lines, as well as scenery, had effect upon the native religions.

We have given this general review of the systems which prevailed throughout the continent, in order to bring out the fact that certain tribes worshipped personal divinities and at the same time deified the Nature powers, and made their attributes resemble those of the personal gods. We may say, that the several classes were constantly interchanged. The attributes of the one were ascribed to that of another, the attributes of nature and those of the personal gods being so closely associated that they were both worshiped.

Another element seems, moreover, to have been introduced into the mythology of these civilized tribes of the Southwest, viz., the worship of kings and queens, for their statues are everywhere present. These statues are decorated with all the ornaments and jewels and garments and emblems of wealth and power, so that we recognize them as designed to represent kings and queens and persons of royalty, as well as priests and officers clothed with authority. On the other hand, the gods which personified the Nature powers were generally plainer in their dress and appearance, and they had symbols about them which were suggestive of all the elements and show plainly

their sphere of activity, three classes of symbols being manifest. It will be acknowledged that there were different periods and different nations and races represented by these personal gods, the earliest period having been ascribed to the Mayas, but the later to the Nahuas. In this respect they also resembled the gods of the Babylonians, Accadians, and Assyrians, for these belonged: some to an early, and some to a later date. The earliest were ascribed to the Accadians. We also recognize in these personal gods the lines of ethnic descent, as we do in the gods of the East, especially the gods of the Greeks and the Romans, and to a degree the early Babylonians. The main difference is that they are surrounded by scenery and circumstances which are peculiar to this continent, and not found in the Old World. The belief in the personal divinities as distinguished from the animal, was the result of progress, and appeared only among those nations which had reached a certain degree of civilization.

We have, then, in these regions of the Southwest a picture of the rise of society, the development of religion, and the growth of mythology, which is very important. The worship of the personal gods along with the Nature powers resembles that which prevailed in the regions of the East, though the isolation of the continent brought about a different order of symbols, a different class of myths, and different divinities, and yet very striking resemblances may be recognized between all these systems and those found in the Eastern continent. It is true that the ethnography of the East isolated the gods of Babylonians from those of the Greeks, as well as the gods of the Greeks, from those of the Egyptians, as the desert on one side and the sea upon the other presented barriers over which religion did not pass until late in history.

It will be noticed that physical barriers often separate religious systems as much as they do language or tribal history, but with the so-called civilized tribes language, history and territorial proximity, all serve to give similarity to their divinities, but serve to make great differences between them and the divinities of the wild tribes. There were, to be sure, time periods which separated the personal gods of the Mayas from those of the Nahuas, but there came in between the two, certain other periods, especially the Toltec period, which so bridged the space that the mythology became strangely blended. The pre-Toltec period embraced the semi-mythic traditions of the early civilization and brings before us one class of divinities. The Toltec period brings before us another class; the Chicimec still another; the Aztec period another. The first extends to the sixth century, the second to the eleventh century, the third to the fifteenth century, and the fourth, the Aztec, to the time of the Discovery.

In the pre-Toltec period, vague traditions point to the cradle of American civilization, and to the Votanic empire. In

the Toltec period the personal divinities and the gods resembled one another in many respects. In the Toltec period the statues of divinities, as well as the architecture of the temples and the symbols contained in the palaces, show that the worship of personal gods was very closely associated with that of the Nature powers, as the religion of the period evidently gave direction to art and architecture, as well as to the literature which prevailed. There was a change in the geographical location as time went on, for the mythology and the ritual moved northward. This appears from the study of the statues and glyphs.

Statues are found in great numbers in the Umasintla Valley. These statues are covered with a great number of symbols, but present a great variety of drapery and show that the kings and priests lived amid great magnificence and the gods partook of their power.

In the Aztec period the divinities also partook of the magnificence which prevailed, but their personal and moral character were very much changed, for the warlike traits of the people had been developed by long conflict, and the war gods came to the front; the Fair God, Quetzatlcoatl, having been supplanted by Tezcatlipoca, the War God. We find that the history of the two nations has been so well preserved in the calendar stones and in the codices, as well as in the sacred books, that we may compare it with those which prevailed in the far East. We are sure that the personal divinities were designed to represent the Nature powers, for there are so many images which are covered with symbols which can be interpreted in no other way. Of course it is not expected that the same zodiacal system existed in America, as that which prevailed in the far East. Yet, in so far as the ordinary Nature powers could be represented, they served as the drapery and ornament of the personal gods and divinities which were worshiped. These ornaments and symbols varied according to the period to which they belong, as the Aztec period was marked by one class of symbols, the Toltec by another; and the oldest of all belong to the time of the ancient Maya civilization. The monuments of the north are different from those of the south, not only because they are newer and belong to a later period, but because they belong to a different system and have a different class of symbols. It is true that we find certain symbols scattered throughout the whole region, such as the serpent, the cross, the tree, and the suastika; but there are other symbols, such as the manitou face, the hook, the Toltec eye, and the crouching lion or tiger, which are not found in the symbols of the Aztecs. Still the Maya system was quite in accord with that of the Nahuas, as we find symbols resembling those of the Mayas in Palenque, Ocoingo, and Copan, for these cities were devoted to the worship of the gods during the Toltec period, and perhaps before that time.

It was through the position of the kings and fear of the priests, that so much of the wealth of the common people was concentrated in the cities. Yet there were outside the cities, upon the summit of the mountains, images of coyotes and of a colossal figure of a winged beast, which watched over the fountains from which the water flowed, which supplied the city. This shows that there was still remaining something of the old animal worship which prevailed among the wild tribes. These were artificial, but there were natural objects which symbolized the same thought. The tradition, however, which most impressed the people was about Quezatlcoatl, who came from the East wearing a cross upon his robe. This, however, is only one account, for another tradition represents him as having the character and appearance of a monk or a priest, and yet his influence became very great over the people.

There is a tradition, also, of three white men having appeared in the midst of the civilization which had prevailed, and who introduced systems of religion resembling those of the East, but so far as the evidence of the monuments go, it would seem that the priests had great power and that the kings lived in great magnificence. There is a discrepancy between these two accounts, for the priests generally wore different garments from the kings, and were devoted to their office, and their style of dress was quite in contrast with that which prevailed among the kings; but judging from the statues which have been discovered in the midst of the forest of the Umasintla Valley, we may conclude that the story had come down from previous generations, and had been one means of perpetuating the priestly power. It is remarkable that the priests and the kings could have continued to rule the people so long, and that the magnificence should have been perpetuated during so many changes and so many wars.

It would seem, however, that the personal divinities which represented the Nature powers were worshiped to the very close of the chapter, although their moral character changed greatly with the change of events. The ancient divinities of the Toltecs and Mayas apparently had been peaceful and delighting in the peaceful pursuits of the people, but the modern divinities, especially those of the Aztecs, became very war-like and seemed to delight in the war-like pursuits of the people. Many wars began late in history and the human sacrifices increased as the wars continued.

In 1512 there were great activities and many sacrifices, and a new sacrificial stone was dedicated. During the next few years Montezuma seems to have determined by brilliant exploits to defy the predictions of magicians and shake off his own superstitious fears, but his people had grown tired of war, and the tribes around were hostile and notwithstanding his prosperity and power he had reason to fear the overthrow of his followers; though the common people had been so long subject

to the power of the king that they had no expectation or desire for deliverance.

The practice of human sacrifice served to perpetuate this abject condition. There was another cause at work, viz., the combination of the priests and rulers in the different cities. There is a record of a compact between the Mexicans and the surrounding tribes in the Valley of Mexico, that battles should take place at regular intervals on battle ground set apart, for the sole purpose of obtaining victims for sacrifice.

There was a fortress built, and a garrison known as Monte Alban built by the Aztecs. The object was to secure captives for the grand dedication of Huitzilopochtli, which took place in 1546. Montezuma up to the time of the arrival of the Spaniards had led his army against nearly all the tribes surrounding the city, in order that he might gain captives to be sacrificed to his divinities; thousands of them were brought in and one after another led to the summit of the pyramids where the priests threw them upon the sacrificial stone, tore their hearts out and threw them into the face of the sun, and their bodies down the sides of the pyramids where they were seized upon by the people and devoured, as if in a religious ceremony. These were the offerings presented to Huitzilopochtli, the god of war, and to Tezcatlipoca, the god of death, whose statue or idol was placed over the entrance to the court, which surrounded the pyramid. There were also shrines within the court in the shape of serpents' heads, filled with fire, and other symbols. These show how strangely the system of religion had been affected by the long wars which distinguished the reign of Montezuma. It is probable that this practice of offering human sacrifice had greatly increased and was one result of the wars. Montezuma had ascended the throne amid great disturbances and had gained power over the tribes surrounding, who arose in revolt because of his cruelties, and yet the power of the priests seemed to keep up the practice and increase the superstition of the monarch. The sacrifices which he offered did not satisfy the conscience of Montezuma. His mind was full of fear, and so he readily submitted to Cortez, imagining that he was the Fair God, who had returned and who might deliver him from his enemies. This mingling of rage and fear was the natural consequence of the wars and the sacrifices which were offered. The evidence is that the system which had prevailed under the Toltecs was far more peaceful, and that the gods which were worshiped were more kindly in their spirit and represented the more kindly operations of nature.

There were thirteen principal gods, the most notable being the God of Providence, the God of War, the God of Winds, and the God of Water. The God of Providence had a seat in the sky and had under his care all human affairs; the God of Water was considered as the fertilizing power, and his dwelling

was in the highest of the mountains, where he arranges the clouds; the God of War was the principal protector of the Aztecs, and their guide in their wanderings. These gods were supernatural beings and had great power, Quetzatlcoatl had all riches of gold and silver and of green stones, and a great abundance of ornaments.

The city of Cholula was the place in which this god was best known. Cholula was given to commerce and handicraft, and worshiped Quetzatlcoatl, who was the God of merchandise. He came from the parts of Yucatan to the city of Cholula. He was a white man, a portly person, with a broad brow, great eyes, and a beard; chaste and quiet and distinguished by moderation in all things. The people had good reasons for the reverence and devotion with which they regarded him. He taught the silversmiths their art; he desired no sacrifice of the blood of man or animals; he prohibited or forbade all war and violence. The name "Quetzatlcoatl" means "snake plumage," or "snake that has plumage"; this was his symbol of power. He was, according to historians, high priest in the city of Tulan; from that place he went to Cholula. Though in temporal things he was ruler of Tulan, in all spiritual and ecclesiastical matters, he was chief pontiff in Cholula. A superior character was ascribed to him, and was brought out by his personal history, a history which in some respects resembles that of Christ himself.

Quetzatlcoatl's repugnance to the shedding of human blood was such that he voluntarily abandoned his throne and disappeared. The story is that he embarked in a canoe made of snake skins and returned to the east, the quarter from which he had come, though this comes from the tendency to personify. The personal character of this divinity is very attractive to modern minds, for he lost everything from the machi-



CUCULAN, CHIEF GOD OF THE MAYAS.*

* This cut represents Cuculcan, one of the personal gods of the Mayas, in various activities, watching over the growing grain and drawing stores from the vase, &c.

nations of his enemy Tezcatlipoca, but he endured his changes and calamities with patience, and entered with calmness into his new life and finally disappeared.

There were four gods who were created and bore the human image; their great clear eyes swept rapidly over all; they saw the woods and rocks, the lakes and the sea, the mountains and valleys; they complimented all and admired all. They returned thanks, and said we have received light, we speak, we walk, we taste, we hear and understand, we know both that which is near and that which is far off, we see all things, both great and small, in all heaven and earth. Thanks, then, to the creator, we have been created and, therefore, we are.

But the gods were not wholly pleased with their work; they said these men are too perfect, they know and understand too much. Then the four men slept, and there was a council in Heaven, and four women were made. Next after them were other men created, ancestors of other people. The language of all the families was confused, and no one of the four men could understand the speech of another. Next the three tribal gods were turned into stone, and they worshiped the gods that became stone,—offered them the blood of beasts and birds. Toward the end of their long life these beings were impelled to lay before their gods a more awful offering than the life of senseless beasts. They began to wet their altars with the heart's blood of human victims. Man was made four times and four times destroyed, and so there were four ages. This is not a modern tradition, for it is perpetuated by the symbols contained in the calendar stone. The first age was the age of the sun, and was called the sun of the water by which every living thing was destroyed. The second age was that of the earth; it was closed by a great earthquake. The third age was that of the air; it was ended by a tempest. The fourth age is fire, and is to be ended by complete conflagration.

Now this record of Creation and the symbols which are given to each, show that the Nature powers were all worshiped and that there were divinities representing each. The transformation of the divinities occurred: Nanahuatzin was changed into the sun, and Tezcatēcāztl into the moon.

This indicates that even the four quarters of the sky and the earth were presided over by the different divinities, exactly as with the wild tribes. The elements were symbolized: the water by reed, the fire by flint, the air a tempest which overthrew a house. All of them are portrayed on the calendar stone.

It is to be noticed that among the wild tribes, the four quarters of the sky were ascribed to the personal divinities, and that these were called upon in all their religious ceremonies. Through their aid disease was banished. In this respect the system resembled that of the East, for Ormuzd was the God of Light; Indra, the God of Earth; Kali, the God of Fire;

ment in morals. Aphrodite was worshiped by the Greek; Dionysus, the God of Wine; Apollo, the God of Letters; also Vulcan, the God of Industry, and Venus, the Goddess of Love.

We see in this the difference between the religion of the Aztecs and the Greeks and Romans. All the gods may have represented the Nature powers, both in this continent and among the Eastern nations, but we find far more cruelty among the gods of the Aztecs than among those of the Greeks. In Greece Atlas bore up the four pillars of the earth; Uranus reigned supremely in the skies; Neptune ruled over the sea; Vulcan or Hephaestus ruled over the subterranean fires; Zeus was the god of the mountains and the chief gods of the Greeks were: Ceres, the Goddesses of Corn; Minerva, the Goddess of Maternity.



THE CLOUD BOAT OF THE MAYAS.*

The elements were personified in these gods of the Greeks, for Zeus was the cloud divinity, Pluto was the God of the Under World, Neptune was the God of Water. The elements, the points of the compass, the different Nature powers were all represented, but the gods were mild and peaceful. The character of the Greeks was full of the love of nature and the society of their fellow men, and religion gave character to their divinities. The divinities of the Aztecs also represented their character. Tlaloc, the God of Water, was represented with a glaring eye. He is sometimes seated upon the suastika, or whirling cross, which symbolized the points of the compass and motion of the sky. Huitzilopochtli, the God of

* This cut represents the Cloud Boat, with the four seasons and four points of the compass indicated upon it. The staff has four nodes upon it. The chief figure may represent the giant Bacab, or Chao, though the animal head is not usually given to the Bacabs.

War, was represented as having teeth and fangs of the serpent, with the eye blazing in his head. His drapery fringed with the rattles or tails of the serpent; a death's head in the center of his body between his arms; its ghastly face looking out from the center of the body, the drapery which covered the arms and limbs seeming like a mockery by way of contrast.

In one respect they resemble the gods of the Greeks, Romans, Egyptians, Assyrians, Babylonians, and Hindoos, for all these are represented as being both male and female, and having children. To illustrate: Jupiter, or Zeus, and Juno constituted the pair which dwelt on Mt. Olympus and ruled over all the other gods, though Uranus, or Saturn, is supposed to have dwelt alone in the skies and was the supreme ruler of the entire universe. The Egyptian divinities were represented in pairs, of which Isis and Osiris were the chief.

The character of the personal divinities partook of the character of the people worshiping them, though they were all of them regarded as the personifications of the Nature powers, as well as supernatural beings. Their chief characteristic was that they represented the real culture of the people, and so were called Culture heroes. They bear names which vary according to their locality and the people who worship them. Itzamna was one of these Culture heroes. He was said to have invented letters; the two sets of hieroglyphics which were designed to keep the records of the time of the days, months, and years, which are so abundant in the codices, were ascribed to him; though the sculptured pictographs found on the calendar stone in Mexico were of more recent origin.

We shall find the same true of the personal divinities of the Mayas and the people who inhabited Peru, including those of the Quichuas. It should be said that these people were more peaceful than the Aztecs, but were more advanced in their culture and in their religious ideas. The divinities of the Maya have been described by the Spanish historians,—Sahagun, Acosta, Clavigero, and others,—but long quotations have been made from their writings by Mr. H. H. Bancroft. The hieroglyphics and pictographs have been reproduced by Lord Kingsborough in his famous work; besides these, copies of the codices have been recently reproduced by Duc de Loubat. These codices have been studied by a number of German scholars,—Seler, Schellhas,—and a few American scholars, chief of whom are Dr. Cyrus Thomas and Dr. D. G. Brinton. The best books for the general reader and the most comprehensive are those prepared by Dr. Brinton, entitled, "The Primer of Mayan Hieroglyphics and American Hero Myths."

The Maya priests, as well as those of Peru, were connected with the government as an order of nobility; they were the religious teachers; the leaders of ceremonies, sacrifices, and confessions; the oracles of the gods were committed to their care. Votan, Zamna, Cuculcan, and all the other semi-myth-

cal founders of the Maya civilization, united in their persons, the qualities of high priest and king. The Mayas intrusted the education of their youth to the priesthood, and the youths assisted the priests in their duties. Girls were placed in convents, and thousands of children were educated at the expense of the royal treasury. Religious feasts were held on certain fixed days of the calendar. The priests were occupied in teaching their sciences and writing books. Landa says, 'We have found a great number of books among them.' There were occasions when sacrifices lasted for many days, and when thousands of victims were offered. Dancing in the courts of the temple continued as long as the sacrifices lasted. The methods of sacrifice were peculiar: a priest adorned with feathers and loaded with little bells, and having a knife in hand, opened the breast of the victim, tore out the heart, brandished it toward the cardinal points, and finally threw it into the face of the sun.

There were eighteen festivals at which human sacrifices were offered, at such times the people ate the flesh of the victims sacrificed. There were days in which young virgins were the victims. The naming of a child was a religious ceremony, generally the child was named after the god on whose day it was born. There was a practise among the priests of predicting the destiny of the child, by finding on the calendar the position of the stars on the day on which the child was born. Auguries were learned from the North Star, which was personified and represented in the codices. The god of growth and the god of death were both personified. A sacrifice at the close of the year was offered, and a picture of it is found in the Dresden codex. Another picture, from the same codex, has been interpreted by Dr. Brinton as representing the God of Time bringing in the dead year.

The effort has been made to identify the deities from the pictographs and glyphs, but it is largely guesswork, and can not be relied upon. This, however, may be said: that there were personal gods, both in Central America and Peru, which were worshiped as supernatural beings, but there was no such conception of a supreme god as we have, nor even a conception which was equal to that of the Greeks. The gods were identified with the cardinal points, the operations of nature, the course of the seasons, and, perhaps, with the astronomical movements, though there is a doubt about this last supposition. The gods are supposed to have consorts and to have children, the children performing offices which were peculiar to themselves. To illustrate: Cuculcan is supposed to be a god of the west; his consort was the rainbow; their children were the Bacabs or giants, called "Chacs." They were also gods of the cardinal points and of the crops. They are represented in the codices as drawing stores from the cloud vases. Each of the gods had his own mission and his

own personality, so that many have imagined that they could recognize them by the pictographs. The god with a single tooth, is said to be the Moon god; the god with the serpent issuing from his mouth, is said to represent the chief god, Itzamna; the god with the shaded face, is supposed to be Cuculcan, who watched over the crops.

We are also to notice that the chief gods of the Peruvians resembled those of the Mayas, but were nearer to our own conception of the divinity. The prayers addressed to them breathe a pure spirit of devotion. The chief god was the embodiment of the light of day, and was represented by the sun, whose face was wrought of gold and placed upon the walls of the temple. There were Culture heroes who were the personification of light. The office and character of the supreme gods were very similar to those of the Mayas. Bochica was the supreme male divinity, his consort was the Rainbow; Cuchaviva was the goddess of rains and waters, fields, medicine, and child-bearing; Votan was the chief god, he assigned the different races of men the places where they were to dwell, he instituted civil laws, and was the Culture hero of the Mayas, so Viracocha was the chief god and Culture hero of the Quichuas. He corresponded to Quetzalcoatl and Itzamna. The worship of Pachacamac appeared in ancient Peru, his name means giving life to the world. All of these divinities were worshiped with the idea that they had once lived upon the earth in human form, were white and bearded, but had withdrawn, and yet the expectation was that they would return. In this respect, the pagan idea was not unlike that which is held by Christians, though the character of Christ is infinitely superior to any of these Nature gods. The chief difference between them was that they represented the Nature powers, rather than the personality of God. To illustrate: we find in Peru the story of the four brothers. They appeared on earth after it had been rescued from the primeval waters, and the face of the land was divided between them. Manco Capac took the north; Coilla, the south; Pinahua, the west, and the east, the region whence come the sun and the light, was given to Viracocha, under his name of the Finisher, he who completes and perfects.

SOME RECENT ITALIAN ARCHÆOLOGICAL INVESTIGATIONS.

BY ALEXANDER F. CHAMBERLAIN.

I. GROTTA OF ZACHITO. In the "Archivio per l'Antropologia" (Vol. XXXIII., 1903, pp. 197-216) G. Patroni writes of *La grotta preistorica del Zachito* and E. Regàlia (Ibid., pp. 217-275) treats *Sulla fauna della grotte di Frola e Zachito*. Both caves are near Caggiano in Salerno, and were visited by Prof. Patroni first in 1900. The cave of Zachito yielded no bronze objects, but this fact does not necessarily imply their entire ignorance of that metal, since their neighbors of the cave of Pertosa, whose culture and the Zachitan show many close resemblances, possessed it. Of stone and bone implements a number were found, among them three small obsidian knives (obsidian objects were lacking at Pertosa) and an unused bone needle, showing manufacturing methods. But the important finds at Zachito are ceramic,—clay whorls (perforated), large and small vases, etc.,—although the quantity is small as compared with that discovered at Pertosa. The material is practically identical in the two grottos, and the resemblances in ornamentation are striking. Both at Pertosa and at Zachito the pottery was made inside the caves; the fabricators were women who remained "at home," while the men were away hunting, warring, or pasturing domestic animals at a distance. The pottery of both grottos is marked with the fingers of women. Certain very small vessels, apparently in imitation of the larger pots, etc., may be the attempts of children, or, perhaps, their toys. The type of pottery at Zachito and Pertosa is the same as that of the prehistoric "station" recently discovered at Scoglio del Tonno, near Tarento. The culture represented at Zachito Prof. Patroni attributes to "the oldest people who occupied southern Italy from time immemorial," the Siculi of history. In southern Italy, then, there has been a persistence or survival of neolithic population, culture and ceramic art; also an evolution of civilization. The absence from both Zachito and Pertosa of the horse makes it probable, Patroni thinks, that this animal had not yet been brought into the country, while the presence at Zachito of the camel suggests relations with Bactria or Arabia by way of the sea. Regàlia, who discusses the Zachitan camel at some length (pp. 257-268) is inclined to look upon it as an intrusive element, possibly brought by sea. The presence of the camel in connection with human remains in a prehistoric "station" is the first case of the kind reported, not only for Italy, but for the whole continent of Europe as well. The date of the

human occupation of the Pertosa grotto Patroni fixes at about 2000-1750 B. C., or perhaps somewhat earlier, possibly much earlier. Neither the people of Pertosa nor those of Zazichito possessed any domesticated birds. As stated above, they lacked the horse, but had the dog, the swine, the cow, the sheep, and the goat. There were three breeds of dogs, two of swine, probably three of cattle, and two of sheep. Prof. Regàlia estimates that domestic animals furnished about two-thirds of the animal food of these people. Remains of many wild animals also occur.

2. "CASTELLIERI" OF TRIESTE, ETC. As *castellieri* are known in Italy walled places on heights of from 100 to 500 meters, corresponding somewhat to the German "Burgwälle" and "Burg rge." They are particularly numerous in Istria,—of 573 *castellieri* known, 126 belong to Trieste, 74 to Görz, 383 to Istria, and 20 to Carniola. Of these Carlo Marchesetti has investigated 524. The results of his careful studies are given in his *I castellieri preistorici di Trieste e della Regione Giulia* (Trieste, 1903). These *castellieri* contain remains of all periods from the Neolithic Age to the time of the Romans, and the oldest are attributed to the "Illyro-Veneti." They seem to have first been built close to the sea, as on the Quarnero islands, and then to have followed the heights inland. The people who built these earliest *castellieri* were in the Neolithic Age, although somewhat acquainted with copper and bronze. About 1000 B. C., an invasion of Illyrians from Carniola into northern Italy took place. These immigrants were in the Bronze Age and had some knowledge of iron, lived in *castellieri* and burned their dead. They left behind them huge necropoli, only a few of which (Sta. Lucia, Caporetto, S. Canziano, etc.) have been explored. This Illyrian culture, according to Marchesetti, had three periods: 1, 1000-800 B. C. (Hallstatt objects); 2, 800-600 B. C. (great independent progress in native industry); 3, 600-400 B. C. (Etruscan influence). With the invasion of the Celts comes the introduction of the La Tène culture and the downfall of many old *castellieri* settlements. Against the Romans the *castellieri* people long and stubbornly defended themselves, until in 182 B. C., the founding of Aquileia marked the final conquest of Istria. The Romans, however, made use of the sites to build new and stronger *castellieri* which they garrisoned with their soldiery. During the Middle Ages the *castellieri* were often used as places of refuge; to-day only their ruins are left, and these Marchesetti urges the people and governmental authorities to preserve, as far as possible. Lissauer, whose review (Mitt. d. Anthr. G. in Wien, 1904, p. 87) is the basis of this note, evidently considers Marchesetti's archæological work of great importance.

3. BRONZE CULTURE. Important is Colini's study *La civiltà del bronzo in Italia* (Bull. d. paletn. ital., Vol. XXIX., 1903) of

ich a résumé is given by Dr. Hubert Schmidt (Zbl. f. Anthr., 1904, pp. 192-193). According to Colini the Bronze-Age people of the *fondi di capanne* (pit-dwellings) and grottos show themselves in various ways (dwellings, stone implements, burial, etc.) to be descendants of the primitive neolithic population. They belonged to a non Aryan stock, the "Ibero-Ligurian." The later Bronze Age in Upper Italy was contemporary with the pre-Mycenæan culture of Troy, Phrygia and the isles of Greece. Relations with Ægean-Mycenæan culture mark the end of the Bronze Age and the transition to the Iron Age in Upper Italy. These facts exclude a connection of Troy with the neolithic "Landkeramik," according to Schmidt. The influence of the eastern group of pile-dwellings and *terramare* can be traced northward into the Italian Marche. The older Ibero-Ligurian population, of Ancona and Peraro, retained their mode of dwelling, and partly, also, their funeral rites, but the Picenian necropolis of the early Iron Age exhibit richly furnished skeleton-graves with lying "Hocker." A somewhat analogous development took place also in Lower Italy. At Scoglio del Tonno in Tarento, the upper layers contained imported Mycæan pottery and a Mycæan clay idol,—finds of great importance (Schmidt thinks) for the chronology of the Bronze Age, not merely in Italy, but also in central and northern Europe. The necropolis of Timmari in the Province of Matera, shows the last stages of the Bronze Age in Lower Italy, or, perhaps, the transition to the Iron Age. The presence of cremation here seems to show that by the end of the Bronze Age the Aryan population had reached the Ionian Sea.

4. PRE-ROMAN INSCRIPTIONS. In the "Rivista archeol. d. ov. e. ant. dioc. di Como" (Vol. XLVI., 1902, pp. 25-64) Giussani publishes an article on *L'iscrizione nord-etrusca di Ciseretè e le altre iscrizioni pre-romane del nostro territorio*, containing all the pre-Roman inscriptions (Rhætian, Gallic) of the diocese of Como. The "North Etruscan" inscription (the one is now in the Cantonal museum at Lugano) found in 1899 at the northern end of Lake Lugano, is specially considered. Giussani thinks the language of this epitaph Ligurian, but Wilser (Zbl. f. Anthr., 1904, pp. 104-105), who reviews the article briefly, holds it to be Rhætian (North Etruscan) and the names to which it relates belong to the time of the Roman conquest, 222 B. C. The proper names contained in the Como inscriptions are of onomatological importance. *Alko-vinos*, as Wilser points out, is probably identical with Saxon *Alcuin*.

5. OBSIDIAN IN SARDINIA. The account of Lo do, in the *Bull. di paleont. ital.* (Vol. XXIX., 1903) of the *Stazione neolitica del Monte Urpino presso Cagliari*, is of importance as describing a work-place for stone implements, particularly of obsidian, material for which was obtained from Monte Arci and Monte Trebino, near Oristano on the west coast of the island.

6. PLANTS OF POMPEII. In the Museo Nazionale di Napoli are some 160 specimens of plants and fruits obtained from the ruins of Pompeii. Of these Wittmarck, whose article, *Die in Pompeii gefundenen pflanzlichen Reste*, appeared in Engler's "Botan. Jahrb." (Vol. XXXIII., 1903, pp. 38-63), has examined some 130 (seeds and fruits). Of archæological interest is his attempt, from consideration of the fruits found, to fix the month in which the city was destroyed,—the 24th of August.

ANTIQUITY OF LONDON AS A CITY.

BY H. B. WHEATLEY.

At the time of the Conquest, 1035, London was a walled city, and this fact largely influenced the conditions of life of its citizens. By day, the gates were watched, each by two sergeants, who were careful to see that no leper or fugitive bondman entered the city. At the tolling of the curfew bell the gates were shut; thereafter no one was suffered to go about the streets or ways. The sergeants of Billingsgate and the Bridge had to see that all boats were moored on the city side of the Thames; none were permitted to cross the river at night. The exaggerated fear of invasion, which in our day has prevented the making of a Channel tunnel, is no new thing. Stow, telling of a report that the French King was meditating an invasion of England, laughs at the panic excited by the rumor: "They had in times past bragged they would blow all Frenchmen out of England, hearing now a vain rumor of the enemy's coming, they run to the walls, break down all the houses adjoining, destroy and lay them flat, and do all things in great fear, not one Frenchman yet having set foot on shipboard; what would they have done if the battle had been at hand, and the weapons over their head!"

Till long after the Conquest, the houses, closely packed together, were but low huts of wood, thatched with straw or reeds. It is no wonder that fires were frequent and destructive. What has been called the first English Building Act provided, in 1189, that party walls should be solidly built, but left untouched the question of roofing. In 1212 a terrible fire raged for ten days; part of London Bridge was destroyed, and it is said that 1,000 persons lost their lives in the fire. After this it was forbidden to roof houses otherwise than with tiles, shingle-boards, or lead. Later, tiles became to be generally used.

An interesting question relates to the population of London. The poll-tax furnishes the means of calculating that in 1377 the population of the city was about 45,000. Trade seems to have been carried on mostly in the open street; hence the names Cheap and East Cheap. Shops were open to the

weather, windows being very rare. Trade regulations were strict, and the punishment for cheating severe. In some cases the punishment was such as entirely commends itself to modern judgment. Thus, in 1364, a certain John Penrose, convicted of selling unsound wine, was first compelled to drink draught of it, then the rest of the stuff was poured on his head.

The Bridge in its day was esteemed one of the wonders of Europe. As Howell renders a eulogy in Latin verse:

"Let the whole Earth now her wonders count,
This Bridge of Wonders is the Paramount."

The Bridge consisted of nineteen arches and a drawbridge. Under each arch the tide at certain times flowed like a cataract, the force of which was in some cases used to turn mills, or to raise water for the service of the city. The Bridge seriously impeded the navigation of the river. The fact is crudely expressed in old views which show boats upset and men *rari nantes iurgite vasto*. The drawbridge was London's chief defence in popular uprisings, which always came from the southern counties, then the seat of manufactures. So late as 1554, Sir Thomas Wyatt, although he had artillery with him, found the city impregnable on the side of the Bridge. He was compelled to lead his forces to the bridge at Kingston before he could cross the Thames and make a serious assault on London. We are not sure that the neighborhood of London Bridge does not better preserve features of Old London than any other part of the city.

A REVOLUTIONARY INCIDENT.

BY JEAN URQUHARDT.

There is one quaint historic landmark in New Jersey which seems to have been utterly forgotten by the chroniclers. It is the old Copany Meeting-House in Burlington county; and it has always belonged to the Society of Friends. The school-house and meeting-house and grave-yard, all occupy the same enclosure; and the ground slopes down from the grave-yard to the little creek beyond. In the summer time, the country boys (who are nothing if not ingenious) used to coast down this hill on planks, and they slid well, those boards, on the dry grass. On Thursday, all the school children had to go to the service in the old meeting-house, Quaker style, and there were many red little arms and legs on those hard benches before the afternoon had worn away. The youngsters firmly believed that the old building was haunted, and the more daring of the boys, for a diversion, would sometimes get up in the loft during recess and wave something white before the windows, which invariably scared the little girls into tears and flight.

The grave-yard was in a sadly neglected state. I remember seeing a spruce pine which had been planted originally at the head and between the graves of an aged couple who died long years ago. The tree seemed to feel that it had a mission to perform, for it had spread out from year to year, until it had almost entirely covered the two graves; thus uniting the two old people in death, as they had been together in life. Most of the graves had not fared even so well, for they were in various stages of collapse and disorder.

The old meeting-house was built during the Revolution, but before the upper story was ceiled, a fight took place between the patriots and the red coats. It was quite near by, and the fray has always been known as the skirmish of Petticoat Bridge. The Americans brought their wounded into the still unfinished meeting-house, and those that were badly hurt were carried up into the second story and laid (a hard enough bed) on the lumber that was intended for the ceiling; and the church became hospital, too. Then, when the bitter days of war had passed, the building was finished; and it is a severe commentary upon the mild and peace-loving Quakers that they used those same blood-stained boards for the ceiling, just as they had intended from the first. It may have been patriotism, or it may have been economy, who knows?

The old meeting-house is a plain frame building, and the first floor, or church proper, looks very bare until after you have been upstairs. Straight wooden benches range primly along a center aisle, and there is a slightly elevated platform at the further end of the room. A big old-fashioned stove in the middle of the place is the only thing which even vaguely suggests comfort. As one turns to ascend the narrow stairway leading to the second story some reddish-brown stains confront the visitor, for they look out of place on the white-washed wall. They will show you the stains of Rizzia's blood at Holyrood Castle, but here we have the blood-stains of a wounded patriot, and it trickled down the wall as they brushed him against it, in carrying him up to the second story. In the center of the floor, upstairs, there is a large trap-door, with a low guard-rail about it, and around this hollow square are low, narrow benches built in stair-fashion, the lowest being next the trap-door. In the early times the Friends flourished in that part of New Jersey, and this arrangement of trap-door and seats was made to accommodate the overflow of the congregation from the lower room. But one forgets all else with one glance at the historic ceiling, for there, seemingly burned into the wood, are the touch of the bleeding hands and the print of the wounded feet. Some of these are as distinct as though they had been made yesterday, and here the doubting Thomas may see and even feel the traces of the very life-blood that was shed to achieve our national liberty.

Oh that each and every grumbling citizen of this fair land

might make a pilgrimage to this little shrine of heroism! He need not measure his length on the ground, like the Eastern devotees; he need not even put peas in his shoes, as a penance, although he might afterwards find some stray sand or gravel stones there, for Burlington county does not furnish asphalt roads for the convenience of the traveller; but what he would find, would be more loyalty in his heart, more devotion to his country, and more respect for those who freely gave their lives in her defence.

THE HERMITAGE.

[From the World's Fair Bulletin]

The Hermitage, the old home ten miles east of Nashville, Tenn., the place where President Andrew Jackson lived and died, has been faithfully reproduced by the State of Tennessee as her State Building at the World's Fair. The bed in which General Jackson died, and other furniture of his room is now in place just as it stood in 1845, and the room is attracting a great deal of interest from Exposition visitors.

The original Hermitage was designed and built by General Jackson in 1835, and still stands in a remarkable state of preservation, with the furniture restored in its original place. The original paintings of President Jackson and his wife, and the original furniture of three of the bedrooms and many other attachments have been removed to the Hermitage at the Fair Grounds. The dining-room is reproduced from the original, which has been entered by seven different Presidents. To the right of the main hall the sleeping apartments are reached. The first one is that occupied by the famous hero of the Battle of New Orleans. When one looks at the very bed, in which he breathed his last, with the same coverings and pillows and valance, with the candle table at its head, the wardrobe, bureau and tables just in their old positions, and hears the crack of the rifles and the rattle of the machine guns of the Boer War Exhibition near by, one cannot help but think of the battles of "Old Hickory" against the Indians in Florida.

President Jackson was a famous host, and entertained everyone from a peddler to a count. Many of the guests would remain with him for years.

In front of the Hermitage near Nashville is a beautiful lawn twenty-five acres in extent. The drive-way, laid out in the form of a guitar, is lined on each side by rows of cedars set out in 1835 by General Jackson and his son. To-day these cedars are of gigantic size, and their branches intertwining at the top form an avenue, said to be one of

the most beautiful scenes in the State of Tennessee. The old place is being kept up by the Ladies' Hermitage Association, an organization of Nashville women.

THE EMPEROR OF JAPAN.

BY WILLIAM E. CURTIS.

[Extract from the Chicago Record-Herald.]

Notwithstanding the Emperor of Japan's participation in public affairs, he still lives in semi-seclusion. Few people are ever permitted to approach the palace. Only a very small proportion of the population of Japan has ever had the privilege of seeing the residence of their ruler, and it has never been photographed. This, I am told, is due to a hereditary feeling concerning the sancity of the person of the emperor. I believe he is the only man on earth who can establish his divine parentage by the testimony of the entire state, and he received the symbol of his imperial power from the divine founder of the nation. These symbols are preserved in an ancient shrine in Shiba Park, near Tokio, one of the most beautiful examples of Japanese architecture, and they consist of a mirror, a crystal, and a sword. The mirror represents his majesty's conscience. When he looks into it he sees the ruler of 43,000,000 of people, and is reminded of his responsibilities. The crystal is the emblem of purity. When he looks upon it he is reminded of what his character and his government should be. The sword is the emblem of power. When he looks upon it he is reminded of the authority and dignity of his office and the power placed in his hands to maintain the right and correct the wrong. Upon the 16th of December, the day assigned to the creation of Japan, the emperor visits this shrine and offers prayers to his ancestors, with significant ceremonies.

While from our point of view it may not be strictly true, as proclaimed in the constitution of Japan, that he holds his throne "by virtue of a lineal succession unbroken for ages eternal," he is undoubtedly the representative of the oldest dynasty in the world, 700 years older than the popes. No other family ever reigned so long. No king, no emperor has a better title, and no man except some of the bare-legged, nomad Bedouin chiefs of Syria and Arabia, have a longer pedigree, for he is No. 122 in an unbroken line from Jimmu, a god who was not only the founder of the Japanese Empire, but the creator of the archipelago. According to our reckoning of time, he lived from 660 to 585 B. C. The existing records of the Japanese government date from 712 A. D. unbroken. No other government, except China, has such venerable archives.

In theory the Emperor of Japan is the source of all good, and the fountain of all power. He owns every acre of the

his authority is absolute, the lives of his subjects are at his pleasure, his judgment is infallible, and his will is the mandate of God; but in practice, because of a voluntary surrender of this autocratic authority, there is quite a different freedom, democracy and self-government in Japan as there is in Germany and other European countries.

This man, this divine personage, "sacred and inviolate," voluntarily lifted Japan out of the list of oriental despotisms on February 11, 1889, and admitted his subjects to a large share in the administration of public affairs, and on April 1 following gave self-government to every community in the empire.

There is no parallel in history for such an act. Never before has an absolute monarch voluntarily yielded despotism, and in this case it was inherited from twenty-five centuries of ancestors, unquestioned. There was no revolution, no compulsion, no demand on the part of the people, but the granting of constitutional liberty for which millions of people in other parts of the world have fought and died was conferred upon Japan from a sublime sense of justice, as a recognition of the rights of man, and the spirit of progress. In the presence of the imperial family, the peers, nobles and high officials of the empire, the chosen representatives of the people composing the first parliament, and the members of the military corps, the emperor stepped from his throne, and signed the minister president of state a roll of parchment, in which was embodied the constitution of the Empire of Japan. This document recognizes the sanctity of the imperial title, and his authority remains as before the source of all power and law; but the responsibilities in the exercise of these functions are now vested by parliament, and only in the presence of great emergency, to protect the public safety and to preserve the empire, can he suspend the acts of parliament. Even then his acts must be approved by that body immediately after its next session. On the other hand, the laws of parliament are subject to the approval of the emperor. Thus honors and responsibilities are even, and one is a check upon the other.

PREHISTORIC ANIMALS.

Fossil fields near Kimswick, Mo., have yielded a number of skeletons,—two thousand bones in various stages of petrification. These were taken from the same locality where Koch found the largest skeleton ever exhumed and which is now on exhibition at the British Museum, and is called the Missouri Monster. Mr. C. W. Beehler discovered these later ones. There are many Salt Lick Springs in the neighborhood, which are the source of the many fossil animals. The ground is miry about the springs and is strongly impregnated with other salts.

THE ANTIQUITY OF ROPES

It is not an uncommon thing in this age of advancement in mechanical and engineering matters for the present day engineer to assume that he knows much more than his ancient forefathers and while this is true in many things, it frequently happens that an invention or appliance commonly believed to belong to modern times is found to have been known and used centuries ago. Ropes made of various kinds of fiber and leather are of very ancient date. Ropes of palm have been found in Egypt in the tombs of Beni-Hasen (about 3000 B. C.), and on the walls of these tombs is also shown the process of preparing hemp. In the tomb of Thebes of the times of Thothmes III. (about 1600 B. C.) is a group representing the process of twisting thongs of leather and the method of cutting leather into thongs. The Bible tells us that Samson was bound with ropes, and that the spies sent by Joshua into Jericho were let down in a basket, presumably by means of a rope. At Nimrud, Assyria, a carved slab showing the siege of a castle was found, on which a soldier was represented in the act of cutting a rope to which a bucket for drawing water from a well outside the castle walls was attached. The wire rope is generally considered a modern invention, a product of modern skill, and it will surprise many to learn that its manufacture is really a rediscovered lost art. Although the Assyrians practised the art of wire-beating, no evidence has been found to indicate that they used wire for making rope. The excavations of Pompeii have, however, brought to light a piece of bronze wire rope nearly fifteen feet long and about one inch in circumference. This rope is now in the Museo Borbonico at Naples. It consists of three strands laid spirally together, each strand being made up of fifteen wires twisted together, and its construction does not, therefore, differ greatly from that of wire ropes made to-day. Pompeii was buried A. D. 79, 1,925 years ago; but how long wire ropes had been known it is impossible to tell, though, judging by the knowledge shown in the construction, it may be safely concluded that they were known for a considerable time. The use to which these ropes were put is not definitely known, but further excavations may shed some light on the subject. As to the use of rope tramways, it is said that they were in use as early as 1644.

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AN EXHIBITION OF ANCIENT ART.

Early next year there will be held in the Louvre, Paris, an exhibition of the priceless Parisian antiquities recently brought over by M. de Morgan from Susa, in Persia, where he has been conducting a very extensive excavation on behalf of the French government. A particularly suggestive feature of the showing will be the collection of over 150

pictures by the well-known landscapist, Georges Bondoux, who was especially attached to the De Morgan mission for the purpose of fixing the present aspect of those wonderful and picturesque ruins that date from remote antiquity, and which are scattered over Persia, but which are rapidly disappearing under the hand of official vandalism and neglect. The most valuable find of the De Morgan excavating party is a bronze statue of a woman, a portrait doubtless of Queen Vapirazu, of exquisite workmanship, dating 1600 B. C. The style is said to be Donatelloesque. This is the only presentment of a woman of so early a period which has yet been discovered in Persia.

The excavations, extending over six square leagues and employing over 500 diggers, also revealed—in addition to enormous quantities of pottery and sections of extremely ancient buildings—several silver statuettes of exquisite execution, recalling early Grecian art, and a considerable number of small square blocks of stone, used in house construction, covered with inscriptions in Elamite, and in the even more ancient Anzonite, a language recently deciphered by Pere Schell, professor of the Sorbonne, who also accompanied the mission. One of M. Bondoux's most interesting paintings is of the ruined blue mosque at Thoris—Tafris, in the confines of Persia and Russia, which is constructed entirely of bright blue tiles.

EXPEDITION TO LAKE CHAD.

An expedition is being organized in Great Britain for the exploration of those regions of British Northern Nigeria Protectorate situated nearest the western shore of Lake Chad. The object of the expedition is to survey and investigate thoroughly, and to gather some zoological knowledge indigenous to the country traversed. Some three months will be spent at a place called Tonga on the Gongola River, one of the northern tributaries of the Benue, which is conveniently situated for exploring the provinces of Southern Bornu and Bauchi. The expedition is equipped with two steel flat-bottomed shallow-draft boats. These have been built in sections for easy transit to Africa, and will there be reassembled. They have been provided to facilitate navigation of the shallower rivers, and will prove of great assistance in both the survey work and the collection of zoological specimens. After completing all the work that can be accomplished from the Tonga base, the expedition will move northward into the basin of the Koma-Lugu River, where a considerable area of little known country will be mapped and explored. Proceeding down the river to Lake Chad, Kuka will be reached. Thence it is hoped that the party will be able to proceed to the German

and French spheres of influence on the southern shores of the lake, and return journey will probably be made by way of Shari and Logone Rivers, past Lake Triburi, to the Kebbi, where is a tributary of the Benue.

THE PYGMIES OF THE PHILIPPINES.

The Pygmies of the Philippines are a race of black dwarfs called Negritos (little negroes), who are true savages, relying for food entirely upon wild plants and wild animals, roaming through the forests in small bands of a few families, having no fixed places of abode and no shelter except the skin tents or tepees they carry with them. They number about 30,000, and their death rate and birth rate must be closely parallel, as they seem neither to increase nor to decrease. These fuzzy-wuzzy men are said to be of smaller stature than any other distinct race, even smaller than the pygmies of Central Africa; and, while they have crinkled hair and black skins, their features and craniums are nearer the Mongolian than the African type. Notwithstanding their small stature they are fiercer and more feared by the civilized inhabitants than any other of the savage tribes upon the islands.

The presence of the Pygmies at the World's Fair Grounds has created a spirit of jealousy among the Indian tribes surrounding the Indian School. Until the arrival of these little black men, the Indians were one of the chief attractions. Each tribe exerted every effort to make their camp the most attractive. The braves could be seen each morning comparing their records of attendance, which they kept by cutting notches in a stick, or depositing a bead in a bowl. Since the Pygmy camp has been established the Indians have been somewhat neglected, and the Pygmies are holding the center of the stage. Chief Yellow Hair, Hollow Horn Deer, Long Grand, and Cut Finger, arrayed in all their finery, stationed themselves near the Pygmy camp, and tried to induce visitors to ignore them. In conversation with some of the visitors, Yellow Hair made the statement that the intruders "were no good, hair too short, not much clothes." He would point out with pride to himself and companions, then to their tepees, and beckon visitors to leave and visit them.

ANTHROPOLOGICAL NOTES.

BY ALEXANDER F. CHAMBERLAIN.

ANTHROPOLOGICAL BIBLIOGRAPHY OF NORTH AFRICA. In the "Revue tunisienne" for 1903, M. Bertholon publishes *L'année anthropologique Nord-Africaine, 1902-1903*, treating of prehistory, craniology, and anthropometry, ethnography and sociology, and demography. Another bibliography appeared previously.

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DRavidian ELEMENT AMONG THE BATAKS. According to Professor H. Kern, the eminent Dutch Orientalist, certain Dravidian ethnic names occur among the Karo-Bataks of Sumatra, proving, apparently, contact between these two races in the past. Some of the sub-divisions of the Simbirings, one of the five *mergas*, or chief tribes of the Karo-Bataks are said to have names of Dravidian origin: *Melijala*=Malajalam (Malabar), *Tjolija*=Soliyam (*i. e.* natives of the Tamul country, Solam), *Pandija*=Pandya (name of one of the Deccan peoples), etc. These names are to be accounted for on the theory that a portion of the Simbirings are the descendants of Dravidian immigrants, who have amalgamated with the Bataks. In addition to these ethnic names many habits and customs of the Simbirings, particularly in connection with wedding and funeral rites and practices, are said to differ much from those of the other Karo-Bataks, and to indicate also a Dravidian origin. Prof. Kern's article is published in the "Bijdragen tot de Land en Volkenkunde van Nederlandsch-Indië" for 1903 (This note is based on the brief abstract given in "Globus," Vol. 84, p. 132). To settle a question of this kind, however, thoroughly convincing evidence is required, and some of the analogies cited, may, after all, be quite misleading.

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HUNGARIAN ETHNOLOGY. Of Count Géza Kuun's *Hazánk lakói a romai uralom megszűnte után a honfoglalás idejéig* (Budapest, 1903, p. 34), which treats of the ethnology of Hungary from the time of the Roman occupation to the Magyar conquest, C. V. Uyffalvy gives (Zbl. f. Anthr., Vol. IX., 1904, pp. 106-110) a good recension. The Gepidæ (after whom earlier Hungary was called *Gepidia*, as it had been formerly *Gothia* from the Goths), seem to have survived in Dacia as late as 870 A. D. The Dacians, too, do not appear to have disappeared suddenly or entirely out of Transylvania, where they continued a shepherd life for a long time. The Huns of Attila Kuun identifies with the Hiung-niu of Chinese annalists. Among

the hordes of "Huns" were found, doubtless, many of the Volga inhabitants, and some Magyars, also. Between the Huns of Attila and the Magyars of Arpad a striking similarity existed. Reminiscences of Attila have taken deep root in the Hungarian people (the Thuroczi chronicle of 1490 is full of them, and they persist in the folk-lore of the Szekler). There is a Szekler proverb from Háromzék: "The Szekler begat the Magyar." Much folk-lore indicates a continuance of the Huns in the Magyars, and folk-sage has it that Arpad conquered Hungary with the sword of Attila in his right hand. Indeed the Huns were as little exterminated or disappeared entirely, as did before them the Dacians, the Gepidæ and the Avars. Gold objects discovered in 1799 at Nagy-Szent-Miklós are said to have belonged to Attila himself, whose "palace" lay probably near the town of Szeged, some four miles off. The Avars, who were conquered in 803 A. D., have still survivors in various parts of eastern Hungary, and form one of the chief elements of the Szekler. Another interesting feature of the Hungarian ethnology is the renascence of the Teutonic tribes after the downfall of the Huns: The Gepidæ in Dacia, the Ostrogoths in Pannonia, and in parts of the latter country, the Gepidæ also. Hither, in 521 A. D., at the call of Justinian, went the Longobardi. Kuun seems to minimize too much the physical and psychical differences between the Huns, Magyars and Avars.

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INDO-EUROPEAN ORIGINS. A noteworthy book, in some respects, is E. de Michelis's *L'origine degli Indo-Europei* (Tonno, 1903, pp. vi.-699), to which Penka devotes a long review in the *Mitteilungen der Anthropologischen Gesellschaft in Wien* (Vol. XXXIII, 1903, pp. 353-358). According to de Michelis the primitive home of the Aryans was in that part of central Europe lying between the Danube on the west and south, the Carpathians on the north, and the Dnieper on the east. Here was formed the basic language of the Aryan stock,—the center of the Indo-European linguistic area lay in the region of the middle Danube, and in the proto-Aryan period the forefathers of the speakers of the *satem*-languages probably dwelt chiefly to the east, the ancestors of the *centum*-peoples to the west of this center. This situation was also favorable for the prehistoric relations of the Aryans and the Finns, with the resulting culture-influences. From this center during the Bronze Age and at the beginning of the Iron Age, the Indo-Europeans set forth into the neighboring countries (taking with them the custom of cremation) and Aryanized the aborigines. Of the three basic European races (the small, brunet, dolichocephalic race of the Mediterranean; the tall, blond, dolichocephalic race of northern Europe; the medium brunet, brachycephalic race of central and eastern Europe), de Michelis regards the last, or "Slavo-Celtic" type, as the "original Aryan." Physic-

lly, he thinks, this type is of Asiatic origin, and "not to be separated from the great Turanian race" of that continent. On the transitional period between the paleolithic and neolithic periods some Turanian tribes must have entered Europe by way of Asia Minor, mixing with the northern and southern long-heads, given rise by modification of the original Turanian type, to the Slavonic-Celtic-Iranic type and the culture of the primitive Aryans.

Against this theory Penka makes many objections: The transformation of a "Turanian" people and language in the way indicated is unreasonable. It is by no means certain that the primitive Aryans in the pre-ethnic period were acquainted with copper. The primitive home of the Aryans need not have consisted of fertile land and steppes, for linguistic data (the differences in the agricultural terms of the Aryans of Europe and those of Asia) suggests an agricultural development in Europe; the Asiatic Aryans, after entering that continent from Europe, having given up (as a result of their steppe life) much of the original agricultural language. In the streams of the middle Danube no eels are to be found, and the eel is a fish, which, judging from linguistic evidence, the primitive Aryans knew. The kitchen-middens of Denmark, which de Michelis attributes to a brachycephalic Mongoloid people, may, according to Sophus Müller, belong to the middle Stone Age, and represent not so low a type of culture (*c.f.* our American Indians) as has generally been assumed. They are not the very oldest relics of man in Scandinavia. De Michelis's objection to Scandinavia as the home of the primitive Aryans, that the beech, a tree known to them, did not exist there in the Stone Age, has been disposed of by recent (1895) discoveries. Penka vigorously supports his own theory that the old Danish region was the primitive Aryan home.

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MORAVIAN ARCHAEOLOGY. In his *Beiträge zur Kenntnis der Quartärzeit in Mähren* (Steinitz, 1903), reviewed by Lissauer (*Z. f. Ethnol.*, 1904, pp. 168-170), Martin Kriz gives the results of his long and extensive researches in the Predmost hill, numerous caves, etc., in Moravia. At Predmost man and mammoth lived together during the Ice Age, during which period the mammoth met with a great catastrophe (snowstorm, disease, or the like), causing the death of some 500 individuals. Man dwelt there before and long after the catastrophe, but only in summer,—in winter he turned cave-dweller. After the Predmost hill was abandoned by diluvial man, it remained uninhabited, apparently, till occupied by Slavonic settlers in the historical period. Immense numbers of animal bones have been discovered at Predmost. The human remains and relics include bones of six individuals, over 3,000 stone implements, besides many of bone, horn, and ivory; also pigments in a red

sandstone vessel, a mammoth-rib ornamented with zigzag lines, dentalia, etc. The most important caves investigated are those of Kulna, Kostelik, Byciskala, etc. The last, from which such fine Hallstatt specimens have been obtained, was probably uninhabitable in the diluvial period (both for animals and man), by reason of inundation. The human remains at Kulna include carved and engraved artefacts. Kriz is of opinion that diluvial man arose in the high north, and first migrated southward with the diluvial animals, and then wandered back north again to exist down to the present as Lapp and Eskimo.

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PREHISTORIC MINING. In an interesting and well-illustrated article on *Prehistorischer Bergbau in den Alpen* (Z. d. Deutschen u. Oesterr. Alpenvereins, Vol. XXXIII., 1902), M. Much discusses mining in the Alps in prehistoric times: salt, copper, gold, iron, and lead. It was salt, rather than the metals, according to Much, that first led man to penetrate into the Alpine valleys. The finds of stone implements at Hallstatt, where salt was obtained, seems to indicate that not until the later Stone Age did man (the pile-dwellers) penetrate into these valleys. Remains of ca. 400 B. C., testify to the continuance of the Hallstatt salt-works. Remains of copper workings exist on the Mitterberg and the Kelchalp. The copper-workers of the Mitterberg were related to the Austrian lake-dwellers. The salt-workers and the copper-workers were the same people. Olshausen, following Herodotus, thinks gold-mining was practiced in the eastern Alps (gold ornaments,—spiral rings,—are at least as old as the beginning of the second millennium B. C.). Iron was mined in various regions of the Alps during the whole of the last millennium B. C. Lead, to judge from finds in the grave-mounds of Frögg in Carinthia, was at the same time mined and used for purposes of ceramic decoration. A brief abstract of this article appears in the "Hessische Blätter für Volkskunde," Vol. II., 1903, p. 110.



POTTERY PORTRAITS.
Loaned by the Field Columbian Museum.



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EDITORIAL.

POTTERY PORTRAITS.

We have already shown that the prehistoric races of America were skillful in representing the human form in their works of art, for there are many sculptured human figures found on the continent. Some of these are found on the Northwest coast which have been sculptured out of wood; others are found among the ruined cities of the Southwest, these are sculptured out of stone and are generally covered with elaborate drapery, which shows the rich dress or costumes which were worn by the kings and queens. There are also a few human images in this region which are quite rude in form and have little drapery upon them, and yet they show much skill, for they bring out some of the religious ideas which prevailed. They are idols and were designed to awaken fear, as they represent huge animals, such as crocodiles and tigers mounted on the backs of human beings, the combination being very peculiar and unlike anything found anywhere else in the world.

These different specimens show that the American tribes had all reached a fair degree of advancement and skill in sculpture, for they are all finished in the round and bring out the different parts of the human form in their proper proportions. Some of them even give expression to the face, and even make the attitudes suggestive of thought. The native skill manifested by these so-called statues was not equal to that shown by the ancient Greeks, Romans and Egyptians, nor even that which was exercised by the Assyrians and Babylonians, and yet there are many things about them which remind us of those found in the far East.

There is, however, one class of relics which have been found scattered over the continent, which is as interesting as any found elsewhere. We refer to the specimens of pottery which represent the human face, some of which were found in the ancient village sites of lower Canada, the state of New York; others in the mounds of Southern Ohio, Kentucky, Iowa, and Illinois; still others among the stone graves of Tennessee; others in the Gulf States and in Florida. The best specimens are those which were found in Peru by Mr. G. O. Dorsey for the Columbian Exposition in Chicago, and have been described in a pamphlet published by the Field Columbian Museum, a few specimens of which are shown in the plates given herewith.

In reference to the entire series we would say that the pottery portraits are quite as interesting as the sculptured columns,

for they show the different stages of advancement in the art of pottery making, and at the same time show the different degrees of skill which all the tribes exercised in expressing thought and in making the human face suggestive of that thought. It is to be noticed that the pottery varies according to locality, as well as according to the character of the tribe among which it was found. The pottery of the tribes which dwell in the forest regions of upper and lower Canada and the state of New York is quite inferior to that found in the valley of the Ohio, and among the stone graves of Tennessee. On the other hand, the pottery which has been gathered on the village sites which are situated among the Cypress swamps of Arkansas, is superior to any of those which have been mentioned, but differs from those which have been found in the stone graves and along the Gulf coast in nearly all respects. The peculiarity of this pottery, is that it represents the objects of nature, such as gourds, squashes, and various plants, occasionally the human form; but does not exhibit as many portraits as are found in other localities, though the specimens are worthy of all admiration.

Now, it is this diversity in the pottery which gives rise to much inquiry: Why was there so much difference in the pottery of the different regions, and how comes it that the people, dwelling in the remote regions, in out of the way places, should excell all others? The answer is, perhaps, that they were familiar with the objects of nature and took pleasure in imitating their shapes. They had, also, the opportunity of selecting the most beautiful plants, and making these the objects of their admiration and as patterns on which they exercised their taste. In other words, they were artists who had gone as far as nature could teach them.

It is for this reason that their pottery vases, and other works of the kind, can be placed alongside of that of the best artists, which have been wrought into shape and been admired by persons of culture and taste everywhere. This only confirms what Hugh Miller, the great naturalist, stated in reference to the similarity of the patterns of carriages and many other objects, which had secured the admiration of cultivated people, being found in the fossil shells and other creations which he had found hidden among the rocks. His explanation was that the same standards of beauty and ideas of grace, which the Creator has embodied in the works of nature and hidden among the rocks, he has also bestowed on man, who was made in his image; and it is a proof of his endowment that man is able to bring out these shapes, and embody them in his best works of art. May it not be then, that those who are so "near to nature's heart," as are some of these untrained children of the forest, are able to catch God's idea of beauty and grace from seeing the works of God in their wild state, and imitating their shape and form, and are able to



Lent by the Field Columbian Museum.

POTTERY PORTRAITS.



POTTERY PORTRAIT.
Loaned by the Field Columbian Museum.

transmit the ideas of God to the most cultivated and favorite of his children.

Now this is plain, and can easily be understood, but there is another fact which is obscure and difficult to explain. It is, that in America, where there were no such skilled artists as are found in the classic lands of the East, and no one to train the natives in any kind of art, there should be persons who could take the rude, simple lump of clay and mold it into such a shape, that it could represent the human face, with all the variety and delicacy of expression embodied in pottery, in such a manner as to astonish us.

There are, to be sure, a few cases where pottery masks have been made representing the faces of children, probably children who have just died. These vases are very natural, and on this account are quite touching, as childhood is always attractive, whether among the rude and wild tribes or among the most cultivated specimens. In these specimens we see the faces of children as though they were asleep, their eyes are closed and their faces have the freshness and fullness seen in life. These may have been masks, and so can be explained without ascribing particular skill to the person who made them.

There are, however, specimens of pottery which have come to us from the regions of the remote West,—the Cliff-Dwellers and the Pueblos. These are not only beautiful and graceful in shape, but are covered with a great variety of ornaments, many of them in colors. They cannot be called portraits, though they represent the forms of animals and plants, in such a way as to excite our admiration. At the same time, they have a mass of symbolism covering the outside, which shows that the clouds and the mountains and the objects of nature were not only admired but worshiped, and the religious ideas which were awakened by them have been stamped upon these frail vessels, so as to make them permanent. They are not so natural as those which have been spoken of, but they exhibit the ideas of the supernatural, and when studied and understood, they excite our admiration.

There are, also, specimens which have come to us from the various parts of Central America, which reveal a great deal of taste, and show not only correct ideas of art but great skill in expressing those ideas. They elicit our admiration because of their graceful shapes, and because they represent the skill of artists who are unknown. The best specimens of all, or at least the most interesting and curious, are these which have come to us from an unknown race in Peru. They were found in the island of La Plata, thirty miles from Ecuador, and they are evidently prehistoric. A gold cup, gold and silver images, and bronze bells were found in the same island, which has been uninhabited since the days of history. The specimens are unlike any found in Peru or Ecuador, but are like those found among the Quichuas. The peculiarity which most interests us,

is that they represent the human face in all the variety of shape and expression which can be recognized among the living. The heads are covered with strange ornaments, consisting of knobs and projections, some of them resembling the rims of hats, but it is not the symbolism which so much interests us, as the expression given to the face. It is impossible to describe, or even to define, the intent of the artist, or to discover the object for which the specimens were made, but the skill is manifested in giving a great variety, and yet eluding us by the subtle expression hidden behind the strange shapes. These specimens vary from eight to twelve inches in height; the most of them are broken, and yet their peculiarities can be recognized in the fragments.

We are to notice that there is a succession of districts along the Pacific coast in which the human figure is represented. Each one characterized by different adornments and different symbols; the skill of the native artists being devoted more and more to the effort to bring out the expression of the soul in the face, but the greatest triumph is secured in moulding the pottery vessels discovered in Peru. It will be understood, however, that this triumph was gained as much by the progress of religious thought, as by the advance of art; as its effect is to bring out the soul from the midst of its mass of drapery and make it pervade the figure and overcome even the deadness of the clay.



PALACE OF MANUFACTURE—WORLD'S FAIR, ST. LOUIS.

EDITORIAL NOTES.

LORD AVEBURY is the President of the Society of Antiquaries.

OSSUARIES found in Palestine are described by Miss Gladys Dickson in the *Reliquary* for July.

"ENGLISH MEDIEVAL FIGURE SCULPTURE" is the subject of an article by E. S. Pier in the *Architctural Review*.

"TRACES OF NORSE MYTHOLOGY IN THE ISLE OF MAN," with ten plates, was the subject of a paper read before the Isle of Man Antiquarian Society.

"BOOK PLATES." The book plates of Horace Walpole, Joseph Priestly, and H. F. Bessborough, by Bartolozzi, have been on exhibition at Hanover Square, London.

DANISH BALLOTS is the subject of an article in the Scottish Historical Review for July, by Prof. W. P. Kerr; also "The Scottish Ancestors," by President Roosevelt.

"LONDON SIGNS" is the subject of a series of articles by J. H. MacMichael in the English *Antiquary*. "English Society During the War of the Roses" is, also, the subject treated by Alice E. Radisee in the same journal.

ROME AND INDIA. Mr. R. Seul read a paper before the Royal Asiatic Society on the connection between Rome and India traced by means of the Roman coins. Many coins have been found in a district from which the Romans imported beryls.

"THE BEGINNINGS OF EGYPTIAN ART" is the subject of a book published by Vromant & Co., Brussels. The specimens represent the period from 7000 to 4000 B. C. The articles appeared first in the *Annals of the Brussels Archæological Society*.

DISCOVERIES IN SCOTLAND. Prehistoric structures in pits have been found in Wigtownshire; a chambered mound, near Stromness, Orkney; six small cairns in Pæuffshire; stone circles in northeast Scotland; and stone cists and urns at Long Croft, Lauderdale.

ISRAEL IN EGYPT. The mention of Israel along with Caanan, Askelon, and Gezer on the stela unearthed by Flinders Petrie, at Merenpteh, near Thebes, in 1896, makes it certain that in those days the people dwelt in Syria, and necessitates a revision of our ideas on the sojourn and exodus.

THE HELLENIC SOCIETY held a meeting of its twenty-fifth anniversary, July 5th; Sir Richard Jebb in the chair. Professor Gildersleeve, of Baltimore, was present. Mr. Gemoadrus, Greek Minister, dwelt on the influence of Greek literature and Greek art on the culture of modern times.

ANCIENT BELL. The oldest bell in the United States is on exhibition at St. Louis. The bell was brought from Spain by Father Juan de Padilla, who accompanied Coronado to New Mexico. It was taken to Gran Quivira, where it was hung in a church; from there it was taken to Algodones. The bell weighs exactly 198 pounds. It was cast A. D. 1355.

TRAPS. An article upon the traps of the American Indians is published by Otis T. Mason in the Proceedings of the Am. Assoc. for the Adv. of Science for 1900. In the article the eighteen areas are pointed out. Three kinds of traps are mentioned,—land traps, water traps, and air traps,—also, enclosing traps, arresting traps, and killing traps. The enclosing traps are subdivided into four classes—pen, cage, pit, and door; arresting traps into mesh, hook, noose, and clutch; killing traps into wait, point, and edge. The geographical distribution of the different kinds of traps is also dwelt upon.

THE NUMISMATIC SOCIETY of New York has recently been merged into the Historical Society of New York, and its collection will be preserved in the rooms of the Society.

THE HEBREW GIHON. This stream is not known in Assyrian, though there was a Sumerian word meaning some kind of reed. The Gihon, we are told, "compasseth the whole land of Kush, or the Kassi," the name under which the Babylonians were known in the age of the Tel-el-Amarna tablets. Among the early Babylonian names are some collected by Dr. Pinches, names of the desired rivers of the country.

THE Greek translation of Genesis, the oldest known text, has been on exhibition at the University College. Excavations at Beni-Hassen, begun in 1902, are now completed. The era of mummification had not dawned. The wooden sarcophagus painted with the eyes of Osiris, and with little bottles of rivers and sailing boats,—oarsmen still clinging to their oars,—is 4,000 years old. These give a vivid glimpse of the social life in Egypt at that early date. Children had dolls, with long braided hair and necklaces, at that time.

BOOK REVIEWS.

TRADITIONS OF THE ARAPAHO. Collected under the Auspices of the Field Columbian Museum and the American Museum of Natural History. By George A. Dorsey, Curator, Department of Anthropology, Field Columbian Museum, and Alfred L. Kroeber, Department of Anthropology, University of California. Chicago: Field Columbian Museum, Publication No. 81, Vol. V.

TRADITIONS OF THE OSAGE. By George A. Dorsey, Curator, Department of Anthropology, Field Columbian Museum. Chicago: Field Columbian Museum, Publication No. 88, Vol. VI., No. 1.

THE ORAIBI POWAMER CEREMONY. By H. R. Voth. Chicago: Field Columbian Museum, Publication No. 61, Vol. III., No. 2.

THE STANLEY MCCORMICK HOPI EXPEDITION. By George A. Dorsey, Curator, Department of Anthropology, Field Columbian Museum, Chicago: Field Columbian Museum, Publication No. 61, Vol. III., No. 2.

The activity of the Field Columbian Museum is illustrated by these pamphlets or books. In 1901, there appeared several publications, one by Mr. H. R. Voth on the "Oraibi Powamer Ceremony," also another by Mr. George A. Dorsey on "Archæological Investigations on the Island of La Plata, Ecuador." In 1903, "The Traditions of the Arapaho," by George A. Dorsey and Alfred L. Kroeber; also "The Traditions of the Osage," by George A. Dorsey, and "The Traditions of the Crows," by F. D. Sims. In 1904, "The Traditions of the Osage," by George A. Dorsey. Other pamphlets are forthcoming.

These books are all very useful, for they show the character and thought of the native races of America, and serve to perpetuate the mythology, traditions, relics and art of the different tribes. The domestic life and customs are not so much dwelt upon as the religious beliefs. This is well, for the beliefs will change, but the customs are perpetuated, at least they can be remembered. It is remarkable that a greater variety of customs and beliefs prevail among the aborigines of America than the natives of any other country, for each separate tribe has a religious system of its own and a system of symbolism peculiar to itself.

These reports will be valuable to the student of comparative religion and comparative art, as well as the ethnologists and mythologists. Thanks are due to unknown parties who furnish the means to make possible these investigations. Chicago is becoming the center of great institutions, and the Field Columbian Museum is as progressive and as important as any, though its work is done quietly and faithfully.

The Arapahos, like the Comanches and the Apaches, have always been regarded as a warlike tribe and very difficult to civilize, and one reason for this has been the influence of the priests and medicine men and native superstitions and religious customs. This collection of myths, which has been made by two separate parties, rather confirms the supposition. There have been modifications of their myths, for domestic animals and objects which were introduced by the white men have a prominent part in the stories that are told. We call them stories, rather than myths, for there is a distinction; the myths probably come from prehistoric times, the stories belong to historic times. The work of collecting has been well done, some might say, too well done; for there is no absolute necessity for giving such bawdy stories to the public. Certainly not as they are told in the camps, though the entire elimination of them would detract from the volume as a faithful collection. The Arapaho traditions are much cleaner than those of the Tshimshians and Kathlamets. It seems strange, however, to be reading about calves and cows and domestic animals as going through all the transformations with the wild animals in these traditions. This shows, however, that the Arapahoes are as thoroughly pagan as they ever were, the fabric of their mind and character has not been touched by Christianity, or even civilization.

CONCERNING BOOK-PLATES. *A Hand-book for Collectors.* By Zella Allen Dixon, A. M., Member of Ex-Libris Verein, London; Exlibris-Verein, Berlin; Oesterreichische Ex-Libris-Gesellschaft, Vienna; Societe Francaise des Collectionneurs d'Ex-Libris, Paris; Ex-Libris-Club "Basilea," Basle. First Edition, with Illustrations and Plates. Chicago: Published by the Wisteria Cottage Press; 1903.

This is an interesting book, and one which shows great painstaking on the part of the author. It appears that book plates were originally coats of arms, and were placed upon books as signs of ownership. They were precautions against books being stolen or kept, but at the present time this peculiar use of them is forgotten, and they have become not only the subjects of antiquarian study, but objects which are admired by most book-lovers. Many individuals scattered all over the world are filling their leisure time with pleasure, and their minds with valuable information concerning art, history, literature, geography, heraldry, genealogy, and biography, through the study of this most interesting subject. Libraries, museums, and learned societies vie with each other in the size and rarity of the collections they offer as a field of research.

THE ART OF PITTI PALACE. By Julia de Wolf Addison. Boston: L. C. Page & Co.

This is a beautiful book and contains many beautiful pictures reproduced by photographic processes from the famous paintings contained in the Pitti Palace. There is great variety in these paintings, some of them relate to Bible scenes and characters, and are by the old painters, such as Fra Bartolomeo, Titian, and Raphael. Others are secular subjects. One which is especially valuable to students of history, represents the "Conspiracy of Catiline." The paintings are in different halls, but it is singular that the halls have such heathen names as Saturn, Jupiter, Venus and Mars, and yet contain such paintings on Christian subjects as "The Vision of Ezekiel," "Saint Peter Raising the Widow Tabitha," and "The Women Carrying the Body of Christ." This last painting by Fra Bartolomeo is one of the most affecting in the whole collection, as it portrays the feelings of attachment of the women to the body of Christ. Nothing could be more expressive than this picture. It alone is worth the price of the book.

The only heathen painting, or, more properly, classic, is of Venus and Vulcan with Cupid, by Tintoretto. It is a very beautiful picture, and nicely reproduced. It is a luxury furnished at a low price, which the publisher has placed before the public. Other volumes are to follow.

EIGHTEENTH ANNUAL REPORT OF THE BUREAU OF AMERICAN ETHNOLOGY TO THE SECRETARY OF THE SMITHSONIAN INSTITUTION, 1895-1897. By J. W. Powell, Director. In two parts. Part I., Washington: Government Printing Office, 1897.

The main part of this report is on the art of the Eskimos, especially those about hearing drums in Art. Edward A. Nelson. It is full of plates and one which illustrates the subject. We see in the frontispiece the faces of an interesting group of Eskimos, and then following it plates illustrating the tools, weapons, ornaments, dresses and other relics; besides the houses, boats, seals etc., their graves and their marks. It is the best book on the Eskimo that we have seen, and is a very valuable contribution to the department of American ethnology.

TWENTIETH ANNUAL REPORT OF THE BUREAU OF AMERICAN ETHNOLOGY TO THE SECRETARY OF THE SMITHSONIAN INSTITUTION, 1898-1900. By J. W. Powell, Director. Washington: Government Printing Office, 1900.

This entire volume is devoted to the description of the aboriginal pottery of the eastern United States by W. E. Holmes, and is an exceedingly valuable contribution to the subject. Mr. Holmes is an artist and understands the nature of the American art as thoroughly as anyone living. He is an excellent draftsman, and is not dependent on others for drawing the markings shown in the plates. Some of the plates reproduce the pottery as they are.

The collection of many of the specimens were made by private individuals among them Gen. James E. Thurston, Clarence T. Moore, Prof. Putnam and W. E. Moorehead. Among the specimens of pottery vessels, we would mention those from Arkansas now in the Davenport Academy. There is a great variety of shapes and some of them are very beautiful and symmetrical. Some of them imitate of shells, of gourds, of fishes, and noneverget animals. The collection is from Gen. P. Thurston.

The collection from the Gulf Coast, gathered by Mr. Clarence T. Moore, contains portrait vases, vases with the engravings of an eagle, frogs and owls, vases from Florida; unique bottles with strange ornaments; rectangular vases, decorated on the outside with human figures in relief; pottery with stamped decorations; vessels in the shape of lily blossoms, the bowls forming the rim; a set of six elaborate decorations representing feathers. The pottery of the Iroquois tribes is rather inferior. A few specimens imitating bark vessels, and one vase, from Colchester, Vermont, which is especially beautiful. There are a few vases from Ohio; one, which was found in a mound in Ross County, is very symmetrical. There are also a few vases of the Mandans and Pawnees, which finish the book.

The vases which most interest us are those which imitate the human head, these seem like portraits, and are so life-like that some have thought they were made as death masks, and afterwards worked into the shape of a human head. They are certainly very interesting specimens.

KATHIUMI TEXTS. By Franz Boas. Washington, D. C.: Smithsonian Institution, Bureau of Ethnology Bulletin No. 26.

THIMBIAN TEXTS. By Franz Boas. Washington, D. C.: Smithsonian Institution, Bureau of Ethnology Bulletin No. 27.

These two books bring out the peculiarities of the language and especially the peculiarities of the character of the tribes situated on the Northwest coast. It is well known that the language is very difficult to pronounce, and also difficult to translate, but no such difficulty exists in reference to the social character and habits of the people. The myths of the different tribes are given in the texts and are translated by Dr. Boas, and then are considered in abstracts, in such a way as to be easily read and understood. The abstracts show that the myths or traditions vary accord-

ing to the tribes and localities. Those of the Tsimshians are much better reading than those of the Kathlamet. Neither are very elevating or especially entertaining. They bring out the habits of the people and introduce us to such surroundings as one finds among savages.

The myths have to do with the animals, such as sea lions, seals, porpoises, sturgeon, beaver, raccoon, otter, bears and deer; shells of all kinds, clams, oysters, crabs and mussels. Certain monsters are brought to light resembling whales. Animals talk as they do in *Æsop's* fables; they live in houses and seem to be human, yet have animal forms. There is no such beautiful conception of animals and birds, as we find in the mythologies of the Eastern tribes, for many of the myths are positively vulgar, and the language is filthy; and yet "transformation" is as common on the Northwest coast as in the Eastern tribes. It is fortunate that the work of translating the myths has fallen into the hands of one who has exercised good judgment and put them into language—the best that could be used under the circumstances, though it fails to hide the filthy and vulgar habits and thoughts of the people.

HISTORY OF THE MOORISH EMPIRE IN EUROPE. By P. Scott. Philadelphia: J. P. Lippincott & Co.; 1904.

Three bulky volumes of about seven hundred pages each are devoted to the history of the Moors. They are people who had far more to do with the destiny of Northern Africa and Southern Europe than with America. The Moors became Mohammedans, and the rise of this religion has had a great effect on the history of the world. The Moors also, along with the Arabs, had some influence upon the rise of letters. The library of *Alyattes* was undoubtedly the greatest repository of learning which had existed in Europe up to the year 661; still the triumph of the Musselmén filled the warehouses from the plundered churches, and the inmates of the monasteries were exposed for sale in the markets.

The author says that the reverence entertained by the Spanish Christians for the Sepulchre of St. James exceeded that which the most fanatic Musselman regarded the prophets at Medina. The savage instincts of the Berbers were indulged in by all, by torture and all the arts of the most exquisite cruelty. Thus we get glimpses of the condition of Europe at this time, when Moors, Arabs, and Berbers were active, but the Anglo-Saxons of North Europe were in a passive condition, and yet were getting ready to fill the whole of Europe with a lasting and growing civilization. These facts come out slowly while reading this book, for it is voluminous and the progress of thought is slow, though thorough and instructive.

NATICK DICTIONARY. By James Hammond Trumbull. Washington, D. C.: Bureau of American Ethnology, Smithsonian Institution.

Mr. Trumbull was, before he died, said to be the only man in the world that could read the Bible which Rev. John Eliot translated into the Indian tongue, and which is now so scarce that it requires a fabulous price to buy it. He was next to Dr. D. G. Brinton in his command of the Indian languages, though Dr. W. W. Tooker was and is a good scholar in that direction, and Mr. A. S. Gaschet is, perhaps, superior to all.

The dictionary is a monument to Mr. Trumbull's industry and learning. The language has not been so useful as one might expect, for the history and mythology of the tribes which spoke it became known to the whites by means of social intercourse, and yet as a contribution to American linguistics it is valuable. It is fortunate that the Ethnological Bureau has secured the manuscript and published it. It is very likely that as archaeologists increase in number and learning, the dictionary will be studied and will be very useful, especially in comparing the Algonkin with other languages which are spoken on this continent.

PENNSYLVANIA. A Primer by Barr Ferree, Secretary of the Pennsylvania Historical Society. New York: Leonard Scott Co.

This is a history of Pennsylvania, written from a geographical and ethnographical standpoint, with the archæology left out. It contains many sketches about the Indians and the early settlers, and has many maps and cuts representing the houses of the old settlers. Any antiquarian would be interested in it.

HISTORY VS. THE WHITMAN SAVED OREGON STORY. By William J. Marshall.

This is written in support of the criticism made by Prof. Borune, and in answer to the defence of the books by Barrows, Oregon, and Nixons on how Marcus Whitman saved Oregon. The literature on the subject is becoming exhaustive, but does not altogether convince either party to the dispute, or settle the question. It is certainly true that Marcus Whitman went to Oregon and had an influence in the settlement of that distant country and gave an impetus to the establishment of right institutions.

JOURNAL DE LA SOCIÉTÉ DES AMERICANISTES DE PARIS. Numéro-Dédié Par la Société à l'occasion de L'Exposition Universelle de Saint Louis aux Academies et Sociétés savantes des Etats-Unis de Amérique.

This journal describes the visit of Leseur to the United States in 1778. It is especially timely in connection with the exposition at St. Louis, as it gives a view of the country as it was at that time. The editor, Dr. G. T. Hamy, has furnished a portrait of Leseur, and various cuts and plates which show the condition of the country and the size of the towns and cities of that time. The maps show that nearly all the villages have grown to be cities, and reveal the growth of the country from small beginnings. Memphis seems to have been a little hamlet, as was also Natchez. The site of Cincinnati, especially Walnut Hills, had, according to the picture, not a single house. The author was very thoughtful in thus presenting these pictures to the American public, enabling them to see the contrast between the early and present condition of the country.

VATICAN MANUSCRIPT. A Reproduction and a Digest. By Duc de Loubat. New York: Museum of Natural History.

The first part treats of the skies, the planets, the past and future epochs of the world. The second part is an astrological or divinity calendar, recording the divisions of the sacred period of 260 days. The third part is historical, giving the names of the Aztec kings of Tenochtitlan and the dates of their reigns, with pictographs of important events. This Codex is a copy on European paper of pictures made by Mexican painters shortly after the Conquest. The copyist was a Dominican monk, Pedro Las Rias. The work was probably introduced into the Dominican Library about 1570, although the first mention of it appears in a catalogue of 1596. It was copied by Lord Kingsborough in his great work.

The Fejevary Codex is a document which throws much light upon the ancient civilization of the Nahuas. It is a pictorial history which relates to civil and religious matters, and was kept by the priests carefully, so as to escape the hands of the Spanish iconoclasts. It takes its name from the celebrated Fejevary to whom it once belonged. It was presented to the Liverpool Free Public Museum by Joseph Meyer. It is printed on four strips of parchment made of deer skin, about six and eight-tenths inches wide and of different lengths; they are pasted together, making a strip 12½ feet long, which is folded into the shape of a fan, after the fashion of ancient books. The pictures are painted on both sides. Edward Selser maintains that one side is devoted to the guardians of the night, and the other to the guardians of the day.





DANCERS DRESSED AS WOLVES.

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THE PERUVIAN ASTERISMS AND THEIR RELATION
TO THE RITUAL.*

BY STANSBURY HAGAR.

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When the Spaniards entered Peru they found that the people celebrated certain festivals which were repeated annually, one each month. These festivals differed little either from year to year, or as observed in Cuzco and Quito. There were four principal festivals, the dates of which were determined by the solstices and equinoxes, and eight minor festivals distributed amongst the intervening months. It is probable that when the conquistadores arrived, the dates of the major festivals were determined by landmarks, some natural, some artificial; so distributed along the eastern horizon as to mark the point of sunrise at the equinoxes and solstices. Dr. Fewkes tells us that by a similar system marking all the months, the Pueblo Indians of New Mexico and Arizona still determine the dates of their monthly festivals, with remarkably slight variation. Many of the early writers refer to columns used for this purpose, both at Cuzco and Quito; but they differ radically as to the number of these columns and their location. Garcilasso states that the Cuzco columns existed as late as the year 1560, but no trace of them has been seen by later travellers. However, if we suppose them to have consisted partly, at least, of natural landmarks located some distance from the city, the confusion with respect to them is not astonishing, nor is it strange they have not been found.

Evidently this system of time measures was preceded by the simpler observation of the rising and setting of conspicuous groups of stars. At first, primitive man seems generally to have made use of the Pleiades for this purpose, because, as Mr. Haliburton has shown, they were so located

*From papers read before the *Congres des Americanistes*, Stuttgart, 1904; and the *Congress of Arts and Sciences*, St. Louis, 1904.

as to easily mark the approach of the two agricultural seasons, the rainy and the dry. This was certainly the basis of the primitive calendar of Peru. Later observations passed from this single asterism to conspicuous groups lying along the course of the moon, and thus a lunar zodiac was created. This in turn became solar when thought and observation had sufficiently advanced to realize that the sun by day passed over the same course as the moon by night. The division of the solar course into twelve-month periods, also implies an attempt to coördinate the solar and lunar years; but again, when we approach the Peruvian calendar there is great confusion and contradiction. The explanation which seems best to reconcile the conflicting statements, is that the Peruvians actually observed the equinoxes and solstices by means of the landmarks already described, and thus divided their year into four seasons, the names of which have been recorded. They then subdivided these seasons into three months, the first two arbitrarily consisting of thirty days, the third, of the remaining period. They commenced at, or immediately after sunset, and continued for an indefinite time.

Now, what was the basis of the ritual of these festivals? Whenever the date of a festival is determined by a direct reference to a celestial body, we may be certain that there is an astronomical element present in the myth or legend; as well as in the ritual pertaining to it. The festival was originated to mark the season for some purpose important to agriculture, or some other department of human labor, and the ritual seeks to induce conditions favorable to the end towards which that labor is directed, while the myth personifies the natural forces involved, and allegorizes the part which they play. The Peruvians believed that every living thing upon earth—and every object was regarded as possessing spirit or life—reflected in form and all other characteristics, the attributes of its prototype which exists invisibly in the sky. That prototype they called *mama*, or mother, and if, in a certain portion of the sky, a stellar group was observed to suggest the form of some terrestrial object, it was explained as due to the predominant influence of the *mama* of that object in that portion of the sky. For example, this idea may be found to-day among the Indians on the upper waters of the Amazon. They also give to the prototype the name of "mother," and many of their constellations are identical with those of the Peruvians. In less definite form the same idea is also found among the tribes of North America. In the Orient it is developed in the noble philosophy of Plato, but attains its climax in the Hindu doctrine of the Divine Motherhood; in fact, the concept is of world-wide distribution. From this Peruvian system of the *mamas*, it followed that the *mama* of the llamas,

for example, was thought to control that portion of the sky where a celestial object—in this case a dark spot in the Milky Way—suggested the form of the llama, and for that reason was called by its name. The llama asterism was, therefore, described as watching over and caring for the welfare and increase of its terrestrial descendants, and petitions were addressed to it by those who stood in need of its good offices on behalf of their flocks. In primitive times it was thought necessary to explain to this mama, as exactly as possible by means of pantomime, the nature of the desired boon, hence the ritual.

In addition to its usual aspect, however, another element operated to powerfully influence the location of these mamas. Probably long before the solar zodiac had been recognized, the concept of the influence of the celestial prototype created a tendency to attribute any seasonal increase in the importance of a terrestrial object to the predominance of its mama in the portion of the sky which was conspicuous at that time. For example, the great profusion of the conspicuous and beautiful cantuta flowers (*periphragmios dependens*) in Peru during the month of June, seems to have led to the identification of the Cantut asterism with another dark spot in the Milky Way, which rises nearly at sunset during this month. So seasons, as well as form, determined the position of the Peruvian asterisms, and from this cause arose a series of asterisms which denoted seasonal concepts when in opposition to the position of the sun. The course of the moon could not be coördinated with the seasonal changes, but gradually as the sun's path along the zodiac began to be recognized, and, as it became known that the orb was passing by day through the asterism six signs distant from that which rose in the East at sunset, a solar cult sprang up, which modified the purely stellar system of the mamas by teaching that the influence of these prototypes was greatly strengthened by, or even entirely due to the near presence of the solar ruler of the sky. Consistently with this modification, there arose a new series of asterisms, the mamas of which were believed to exert their strongest influence on earth when in conjunction with the sun, instead of in opposition to it. This last stage had been reached in Peru long before the arrival of the Spaniards, but traces of the older system remained. In some cases it had, perhaps, been found difficult or impossible to imagine amongst the stars in conjunction with the sun, an object of satisfactory form to represent the required seasonal concepts, and here the oppositional asterism had been retained, although, by a kind of astronomical fiction, it was regarded as exerting its influence from the position of conjunction. A change of a similar nature seems to be indicated in the Accadian and other calendars.

The astronomical myths and ritual naturally followed the calendar changes, and the festivals at first connected with the asterism crossing the meridian at midnight, were transferred to the opposite asterism through which the sun was passing at the time of the celebration, but one trace of the purely stellar system remained in the beginning of the rites after sundown.

Our knowledge of the Peruvian asterisms is derived from three main sources, the star-chart of Salcamayhua, the plan of the city of Cuzco, which was supposed to reflect the celestial plan, and the lists of asterisms given by the early writers.* These lists are, however, rather brief, and few of the stars and constellations named are identified.

The commencement of the Peruvian year is involved in the same confusion that surrounds the calendar. The preponderance of evidence seems to indicate that it began at the December solstice with the celebration of the most important of the festivals, known as the *Caprachay*, or Festival of the Beard; or, as the *Coapac Raymi*, or Principal Festival. During this month the sun is passing through our sign of Capricornus. The corresponding Peruvian asterism is called *Nuccu*, the Beard, and *Cayau Cachi*, the Footprint. It comprises the stars γ , δ , ϵ , ζ of Capricorn and a group of fainter stars in the eastern part of that constellation, which, all together, form a figure quite readily suggesting its Peruvian names. Those names refer directly to the widespread myth in which the sun, then at the height of his power in the southern hemisphere, is figured as *Capra*, the Bearded One, a man in the prime of life, who marks the zenith of his strength by impressing the print of his foot upon a rock. As the symbolism of the myth is directly associated with the sun, we find that the constellation is actually that through which he is passing. At this time the sun was said to turn back his steps. But as it was observed that at the solstices for several days he hardly moved either north or south at his rising, he was regarded as resting. Similarly on earth everyone was required to rest from labor during this month, and to devote themselves to ceremonial dances in which the participants wore masks with long beards, and to processions in which the upper orders, who at other times wore sandals, walked in bare feet, like the common people.

In February, the *Aquarius* month, the sun entered the Peruvian sign known by the names, *Mama Cocha*, Mother of Waters, and *Chaquill Chaca*, Eagle Bridge. It was associated with the aquilla or water jar. The Water Mother was figured as a sacred lake located in the Southern Fish and the Crane; the Bridge, as the narrow lofty bridge of souls which spanned the river of death, like one of the swaying suspension bridges of rope which spanned the Andean torrents, the passage of

* See the Author's paper on the "Stellar Chart of Salcamayhua," *Congress Americanistes*, Paris (1900) and "Cuzco, the Celestial City," *Congress Am.*, New York, 1902.

which was terrifying and at times really dangerous. The asterism of this bridge is found in the dark band which spans the Milky Way, the Celestial River, in the Sails and Keel of Argo, opposite Aquarius. The month of February marks the height of the rainy season in the Andes, and the rivers are in flood, so that the power of the Mother of Waters was then most conspicuously displayed. The second festival, held during this month, was called the Ccapac Cocha, or Ruler of the Waters, and consisted of a ceremonial offering to the Mother of Waters. After sunset, at a moment probably fixed by the rising of some star, a llama was sacrificed to Mama Cocha, with a prayer to her ever to send her waters, so that they might nourish the coming crops and give food and drink to her suppliants. The ashes of all the burnt offerings of the previous year were then thrown into the sacred stream of the Huatanay, to be carried to the bosom of the Mother of Waters in the unknown East. They were followed down stream as far as the bridge over the Sacred River at Ollantaytambo, some thirty miles from Cuzco. The city was supposed to be purified by this ceremony, just as the rains of the month purified the land by carrying off the decaying matter. And the Sacred River was the terrestrial type of the Milky Way, the Celestial Stream.

March, the Pisces month, seems to have been represented by two asterisms, one called the Terrace of the Granaries or the Doves, a name of the Pleiades. It was figured as a kind of net with numerous meshes, and also bore the name of the Ccuricancha, or Golden Place, the district in which stood the principal temple of Cuzco. It is impossible to determine whether it actually represented the Pleiades, which have no obvious connection with this sign, or merely referred to them because of some imagined analogy or relationship. But we may note in passing that, for some unexplained reason, the Pleiades seem to have been associated with this sign in the Orient. The other asterism is called Pichu, the Tie or Knot, by which name the month itself was also known. Its most general use was to describe fishes enclosed in a net or basket, and the myth describing the origin of fishes seems to be connected, both with the Pleiades and with this sign.

On the terraces of the Colcampata the first maize was annually sown by the Inca during this month, and that ruler is then said to have ceremonially ploughed a furrow with a golden plough. Hence the ritual seems to have typified the rebirth or renewal of vegetation after the subsidence of the heavy rains of the preceding month. The details of the typical fish myths of America and other continents reveal a symbolism based upon that very rebirth or renewal.

Aries, the April sign, was known in Peru as Katu Quilla, or Market Moon, and Quilla Pata, or Kneeling Terrace, both names referring to a group of dark spots in the Southern Milky Way, extending from Centaurus to Scorpio. Then the

early crops were harvested and borne home upon the backs of the llamas. The festival was called Ayrihuay, or that of the Axe, and referred to the reaping of these crops. An important sacrifice of llamas also took place at this time, accompanied by a petition for a good harvest and an offering of llama wool.

Taurus was represented by the Pleiades as Pirua or Collica the Granaries, and by Tupa Taruca, the Pasturing Stag, the Hyades and *l* and *f*. of Taurus. The Pleiades governed the crops and the harvest, and, indeed, were supposed to have created them; while the stag, which in May made frequent incursions into the grain fields, became the natural symbol of the harvest feaster. The Ayrihuay festival was held during this month, the word meaning, "a sack filled with the harvest." The crops, which had been previously reaped, were now deposited in the granaries, under the presiding care of the asterism whose name they bore, and, prayers were offered for their preservation therein. The ceremonies concluded with a harvest home festival, in which the dancers were dressed to represent the turucas, or deer. Drunkenness, apparently tolerated at all the festivals, was especially prevalent at this.

Gemini was called Camach Pacha, Time of Creation, from Camani, I create, and Huaca Puncu, the Sacred Gate. The word Huaca is probably derived from Huauque, double, also the brother of a brother. The former asterism was depicted as a man and woman, evidently Manco Ccapac and Mama Oello, the mythical children of the sun and moon and the first rulers of the Incas. This asterism probably represented the stars Pollux and Procyon. The Sacred Gate may have been framed by the same stars, between which the sun passed, as through a gate, or by that gate or cave-like gap in the Milky Way between Gemini and Orion, just beneath the solar path. Both asterisms refer to the appearance of the first Inca pair out of the Pacari Tampu, or Cave of the Dawn, and, in earlier form, to the creation of the world at Tiahuanaco. June is a month peculiarly favorable to the rearing of infants in the region of Cuzco, and as we shall see, the September ritual tended to locate the majority of the births at this time. Whether this was accident or design, is only indicated by the nature of the fact as stated. But there was a ceremonial procession from Cuzco to Pacari Tampu and back in which the ruling Inca and his wife participated. We are told that it commemorated the birth of the sun and the journey of the Inca pair from Pacari Tampu to Cuzco. The month was called Huauque, the two brothers, apparently again referring to Manco Ccapac, but to his brother instead of his wife. Another name was Llusque, the sandals, suggesting the sacred journey. The prayer besought the celestial powers never to grow old.

One Cancer asterism is named Nayra Ccunapa or Nauin, the Grindstone Eyes, and Uma Umina, Water or Head Gem. It is figured as a group of seven stars, evidently those in the head

of Hydra, directly under Cancer. The first two names refer to the deep red and iridescent cuttlefish eyes, which were frequently substituted for the human eye in mummies; the Head Gem, being the emerald, believed to have marvelous healing properties. The other asterism was the Cantut Pata, or Terrace of the Cantut. The Cantut (*periphragmos dependens* and *uni-flora*) was the sacred flower of the Incas, generally deep red in color, and in form suggesting that of the squid. In June and July the fields around Cuzco are red with them. The ritual of the Intip Raymi, or Festival of the Sun, included the same solstitial resting as in December, but there was also the Anta Asitua, or Great Copper Dance, named from the use of objects of that dark red metal by the dancers. At that festival sacred cakes were eaten, called "cancu." They were made of crushed maize, reddened with the blood of animals, and the participants in the accompanying dances were dressed in suits of like colors. In fact, throughout these ceremonials the keynote seems to be dark red, hidden fire, the color of the distant but returning sun.

Leo becomes Chuqui Chinca, the Jaguar Lance, referring to the figure of a puma springing upon his prey. It is formed by the stars of Leo. Puma Courcu, or the Restless Puma, refers to the same asterism, which is the fitting symbol of the warrior. The ritual consisted of military balls, in which the troops were exercised to the accompaniment of noisy music, and songs of triumph were sung.

Virgo was known as Sara Mama, the Maize Mother, identified also with Apacha Mama, or Mother Earth; also, as Toco Cachi, the female symbol, both names referring to Spica and the surrounding stars of Virgo. The month festival was called the Ccoya Raymi, or Queen's Festival, and was dedicated to the Maize and the Earth Mother, as well as to women in general, who in this month only, predominated in the ritual. All marriages throughout the country were celebrated at this time, none being legal during other months. The women devoted their time to ceremonial spinning and weaving, and the Earth Mother was worshiped with prayers to her to ensure the fruitfulness, both of mankind and of the crops.

Libra was entitled Rainbow, Lightning, Sacred or Divided River and the Earth. It was represented by a group of objects corresponding to these names, and denoting the constellation Serpens, with parts of Ophiuchus, Libra, and the Milky Way. The Cuzco asterism was Munay Ssenca, the male symbol, referring also, probably, to the stars of Libra. The sign seems to have typified the male attributes, much as the preceding sign typified the female. The corresponding myth explains the genesis of terrestrial life by the union of the Earth Mother with Libiac, Spirit of Light, Lightning, and the Thunderstorm; and the ritual of the preceding month suggests an analogy. At this time the wet season was ushered in amongst the Andes,

with striking electric displays followed by numerous rainbows, and the rains began to fertilize the earth for the coming harvest. The month festival was Uma Raymi, the Head Festival, referring to the annual census of the male heads of families, which was taken this month, after the marriages of August-September. On this number was based the annual division and assignment of cultivable lands, to the newly constituted families. There was also a ceremonial purification by bathing at the junction of two streams. The Situa Festival of the September equinox opened the ceremonies.

Scorpius was the Peruvian Mallqui, meaning tree, or immortal, and referring to a group of stars in that constellation near Libra, which present the form of the two objects named. The other asterism was the Rimac Pampa, or Speaking Place, pointing in Cuzco to a sacred district, where all laws were announced, probably during this month. It seems to refer to a sacred mountain or hill as its celestial type, but the stars which framed it, were probably the same as those which framed the foliage of the Scorpius Tree. During this month was held the Ayamarca, or Carrying of the Corpse, in which the mummies of the dead were brought from their sepulchres and carried in procession around the city, in honor of the spirits, which were believed to revisit the earth at this time.

Finally, Sagittarius is represented by its catasterism Orion, as the Stairway, and by its own western stars, with those nearest in Scorpius, as Pumap Chupam, the Puma's Tail, or the Drunken Puma. Just above this last-named group is a dark band in the Milky Way, dotted with two spots of light and presenting the form of the long tail of a puma. It is impossible to say whether this Pumap Chupam, or Puma's Tail, or the Drunken Puma, represents the older form of this asterism; but, as in the Puma of Leo, we recur to the warrior type in the ritual. The trials or tests at the initiation of the young men to knighthood, which were held at this time, suggest the steps of the Celestial Stairway. The novices were required to climb a hill, and then to contest in a footrace, in initiation of a certain idol, "which ran like a puma." There was also a contest with slings between two bands of novices, to test their valor, and they were exhorted to live henceforth as brave men. Arms were given to them, and they danced clothed in puma skins. Prayers were offered that the new knights might be fortunate in war. But, as contrasted with the Leo Festival, this was a ceremony confined to the nobles or leaders and to those about to be initiated as knights.

A comparison of the Peruvian ritual with that of Walpi, as described in the valuable paper by Dr. J. W. Fewkes, on the annual ceremonies at that pueblo, reveals a correspondence too striking to be accidental, however else we may explain it. But the similarity of the ritual of more than one country on the Eastern continent is little less remarkable. Nevertheless it is

certain that this Peruvian ritual has not been introduced or established since the time of Columbus. But the purpose of this paper was to determine whether there was such a correspondence between the Peruvian asterisms and ritual, as would indicate an astronomical basis for the latter, and the materia bearing upon that question has now been presented.

HYMNS TO TAMMUZ: A NEW RECOVERY OF BABYLONIAN LITERATURE.*

BY JOSEPH OFFORD.

It is only a short time since the acquisition and publication by Professor Meissner, of an important addition to the Gilgames myth, in a newly-found tablet preserving portions of a Babylonian recension of the story; yet now, already, we have the pleasure of reporting the *editio princeps* of another most interesting fragment of cuneiform literature, consisting of some hymns to Tammuz, the Mesopotamian Adonis, which are preserved in the museum of Owens College, Manchester, England.

These new mythological texts, or ritual chants, have been deciphered by a scholar competent to essay the preliminary attempt at their translation; the work having been executed by Mr. Theophilus G. Pinches, LL. D., but he modestly desires it should be distinctly explained that for the present his rendering is provisional only. Probably the principal reason for this precautionary statement, is that not only is the character of the script of very archaic Babylonian type, such as is indicative to scholars of the era of Hammurabi, but the text embodies a Sumero Akkadian language, unaccompanied, as such documents, fortunately for translators, have almost always hitherto been, by a Semitic Babylonian or Assyrian parallel version.

The approximate date for the engrossment of this tablet is 2000 B. C. The characters are carefully impressed, but it is deeply to be regretted that the text is much mutilated. Originally there were six columns of writing, with from 31 to 43 lines each, thus amounting to some 216 lines. Of these, about 120 are fairly complete, and some words of half the remainder are legible. It will be apparent, however, that the lacunæ are sufficient to deeply diminish the literary and linguistic value of the text. A further difficulty in decipherment arises from the fact that the hymns are written in a peculiar variety of Sumerian, known as the "dialect." Also, scarcely any ideographs are employed, the words being spelled out.

It must be remembered that the only apparatus at present

*The Hymns to Tammuz in the Manchester Museum, Owens College. "A Provisional Rendering," by Theophilus G. Pinches, LL. D., M. R. A. S., 35 George Street, Manchester. Proceedings of the Manchester Literary and Philosophical Society.

existing for attempting the translation of a Sumero-Akkadian text, is the dictionary of Semitic-Babylonian and Akkadian words, which may be, and partially has been, compiled from the numerous lexicographical tablets composed for the students of the ancient language, chiefly by the linguistic scribes of King Assurbannipal.

In his preface to the study of the new document Dr. Pinches gives a list of about 60 words employed in it, whose meanings are positively ascertained by means of Semitic-Babylonian, or Assyrian, explanatory tablets. But even 1000 years before Christ, the Semitic Babylonians had forgotten the meaning of many Akkadian words; or, at least, they were uncertain about them, because frequently, when in doubt, they append duplicate, and even sometimes triple, translations of the ancient tongue's words, or phrases. In addition to this short vocabulary of known word meanings placed at the commencement of his work, Dr. Pinches appends a list, with commentary, of over 100 words to be found in the text, which will prove a most useful assistant in the labors of future scholars upon Sumero-Akkadian tablets, and be a treasure to the comparative philologist.

Before proceeding with his attempt to unravel the significance of the text, Dr. Pinches devotes a few lines to satisfying his readers that he is correct in considering the text to embody a pæan, or invocatory hymn, to Tammuz, showing how frequently his name and that of his consort Ishtar occurs, and also pointing out that he is often referred to as *Mutna*, that is, husband, of Ishtar, a term known to be used for Tammuz.

It is impossible in this review to give any very connected epitome of this tablet's contents, for the reasons already assigned, but the following summary will present some idea of the purport of the chants. The first column, of which about half the lines are still perfect, contains a call, or summonse, from Ishtar, or one of her devotees, to Tammuz to return to her. It is a special phrase, potent for its purpose, "The summonse of Tammuz resounding afar off, she who knows (it) subjugates him." This refrain, or call, is "Return, my husband." He is, in another part of these 33 lines of column one, entitled "The Lord," also "Lord Tammuz." The word for "lord" is *Am*, in Sumerian. The Babylonian-Semitic counterpart would be *Aduni*,* whence the Adonis of the Greeks, who confused this synonym for the god with the deity himself. The Sumerian title for Ishtar, *Innanna*, is, of course, also used. The word to enclose, *Mura*, is also philologically interesting, because of its apparent connection with Indo-European words. The concluding words of this column of the hymn seem to indicate Tammuz's desire to be released, so as to obey Ishtar's call for him.

*The earliest example yet known of the word "aduni" for lord, is in a cylinder seal in Lord Southesk's collection, we hope soon to be published by Dr. Hayes Ward. It is, of course, the origin of the Syrian and Carthaginian Adon, Adoni.

Column two refers to some barrier separating Tammuz from Ishtar, doubtless of the Underworld Portal, because Eresêgalla, who it is now considered is a form of the goddess Allat, seems to have had her domain bounded by it. This deity is one whom Mr. Legge recently showed us Egypt's Greek writers were well acquainted with,* and her character clearly comprehended by them.

Column three of the tablet is very imperfectly preserved. It is a pæan of praise to Tammuz, acclaiming his arrival from the Underworld, terminating with a mournful memorial of his necessary return there as the annual season approached again. This section of the hymn calls him "Son of the Flute"; a noteworthy title to students of mythology. In the "Story of the Descent of Ishtar," we read that when Tammuz came forth from the shades, he was welcomed with the pipings of flutes. "On the day of Tammuz play for me on the flute . . . Together let the professional dirge singers male (and) female play for me."

With the exception of four lines at its end, column four is fairly legible, but its true purport is hardly ascertainable, for it contains numerous novel words which render the present translation very tentative. They will provide excellent work for students of Sumerian, and doubtless soon their accurate meanings will be detected. It speaks of Tammuz temporarily inhabiting the Abzu, or Abyss, the abode of Ea, in which was the great water of Hades, whence Oannes came to instruct Mesopotamian mankind in civilization. It apparently possessed a littoral, because Tammuz pastured his flocks in this netherworld.† Like the Egyptians, however, who believed in a subterannean abyss and great river (counterpart of the Nile) therein, with its Elysian borderfields; and yet also had a celestial Oceanus and its isles of the blest. So, perhaps, the Tammuz of the Akkadians had a heavenly stream along which he pastured his flock, the stars. Certainly, according to some versions of his myth, he, like Helios, fed his flocks in fields beyond the earth encircling ocean river on the route to the shadowy land of the departed.

Several lines in this part of the hymn refer to Tammuz as a corn deity, or harvest god, causing the grain to come forth; apparently the bursting of the seed beneath the soil being especially attributed to him, and then its growth and ripening. In fact, the phase of Tammuz as God of Agriculture is plainly dwelt upon here, and Dr. Pinches, from his appreciation of the writer's meaning, says that the successful call of Ishtar for Tammuz to come back to her arms, caused all seeds to germinate for the approaching season. The planting, tendering and culture of plants, as worship symbolical of Tammuz, is easily

*"The Word Armageddon," *Proceeding of the Society of Biblical Archaeology*, 1900, page 121.

† In the British Museum Tablet, Tammuz is "Shepherd Lord Tammuz, husband of Ishtar." The new text says, "Into the pasture she" (Ishtar) "goes calling 'return, my husband!'"

explicitable from this point of view, and adds interest to Dr. Cheyne's proposed rendering of Isaiah xvii: 10: "Thou didst plant plants of Adonis." Na'amānim: Naaman: "darling," appears to have been a favorite title of Tammuz.

The last two columns refer to Tammuz being lost and restored, and to certain spells and incantations, and to barriers the god had to be assisted to pass. As with earlier parts of the songs, these appear to have been recited by some officiant who enacted the rôle of Ishtar.

Dr. Pinches appends a translation of the previously known Hymns to Tammuz in the British Museum, which term him "Lord of the Underworld" and "Husband of Ishtar," and allude to him as the germ of the plant lying in the field furrow; as the bud which is to blossom, and a sapling by a watercourse; but more especially laud him as a freshet, or stream, deity. Professor Jastrow has pointed out that at one period Tammuz was a water spirit, and adored with libations of water. In the "Descent of Ishtar" it says: "To Tammuz her youthful consort, pour out pure water."

It will be recollected that the worship of Tammuz-Adonis at Gebal, or Byblos, in Syria, was a river cult. The stream was said to run red because dyed with the soil washed down after the seasonal rains upon Lebanon. At Byblos, however, the Mesopotamian myth was grafted on to the Isis-Osiris story, and the "Lament of Isis for Osiris," her husband head, was united with the "Weeping for Tammuz"—Adonis,—of Syria. The Adonis-Osiris side of the Byblos cult has recently been treated of by M. Lefebvre in the late M. Karl Piehl's magazine of Egyptology, "The Sphinx," Vol. VI.

It is most interesting to know that Tammuz worship is not extinct, but still survives among the Yezidis of Kurdistan, in the highlands east of the Tigris, together with that of Shamas, another old Babylonian deity, whom the Yezidis now call Sheikh Shems; the latter they worship by sacrifices of white oxen. Their Tammuz cult is secret and symbolized by a peacock emblem called Melek Tâ'ûs. This is the mysterious Tâ'ûs of the Mahomedans, called also El Khûdr, who, as often as killed, returns to life as the Tammuz of the ancient Nabateans, and of Ezekiel viii: 14. So is Tammuz the origin of Thoas, or Theias, husband of Myrina, a king of Assyria, according to Apollodorus.

The Yezidis call Tâ'ûs, Abtâ'ûs, namely, "Father Taus," and when worshipping him, adorn themselves with scarlet anemones. This was the favorite or particular flower of Adonis, who is Tammuz himself, under his Syrian appellation of Adon, lord. Ovid tells us the scarlet anemones grew from the blood of Adonis. The Arabs possess the same myth, probably descended from its Syrian folklore side, for they call the anemone "the wounds of Adonis."

That Tammuz worship should still be extant in a far away

corner of Asia Minor is not remarkable, when it is remembered that Albiruni, in the tenth century, clearly tells us that Tammuz was by the Sabians commemorated by lamentations and weeping in his time. The ancient, so-called, "Book of Nabatean Agriculture" has much about Tammuz and Taus, as becomes a farmer's guide book, and its translator, Ibn Washshiyah, says he had seen an ancient book giving a complete narrative of the Tammuz legend.

Amos viii: 10, informs us the mourning was for "the only son," and Zechariah xii: 11, speaks of it being for "Hadan Romnion." These two wailings were really for one and the same deity. Macrobius explains that Hadah, the Syrian sun god, whose festival was a harvest one, was the victorious producer of vegetation, the same who at the autumnal equinox, "the sixth month" of Ezekiel viii: 10, was being mourned for, because of his effacement in the approaching winter.

In the Ishtar legend the goddess Tillili cries, "Ah, my brother, the only one" (line 134). In the new hymns, lines 23 and 29 of column 4, we have, "the brother" and "the sister" called to. In the Hymn to Tammuz at the British Museum, the refrain "the call of the lord" is quoted. Three of these phrases are in the rubric of Tammuz worship in Zechariah xxii: 18. Just as these cuneiform texts are parallel to the Old Testament statement, so, and even more closely, does the accusation of Gilgames, in his myth, against Ishtar, for her misdeeds: "For Tammuz, the husband of thy youth, from year to year, thou causest bitter weeping"; exemplify the incidental information the Hebrew writers present. When the great temple tower E-su-gala of Tammuz, at Agade, is excavated, we may anticipate possessing his story complete for science once more.

The accuracy of the Biblical references to the cults and stage of thought, proper, we now know, to the contemporary civilizations of the peoples with whom the Hebrews came in contact, is a continual proof, not only of the genuineness of the Jewish writings themselves, but also of the approximate correctness of the date hitherto assigned to them. The ever augmenting proofs of this, which appear the more the ancient records are recovered, and the more completely what they contain is understood, is one of the most remarkable results of modern research. There is no need to exaggerate their evidence, as is, unfortunately, sometime attempted, it is ample to an unbiased mind, as it is.

NOTE.—In the annual Adonis-Osiris fetes at Byblos, the head of Osiris was supposed to arrive there in a tiny papyrus boat, which without human guidance floated from the Nile to the Syrian city. Procopius of Gaza sees an allusion to this in Isaiah xviii: 2, as do several others of the Christian Fathers.

PERUVIAN STORY OF THE DELUGE.

Father Molina writes of the ancient lore of the Cuzco tribes: And first with regard to the origin of their idolatries, it is so that those people had no knowledge of writing. But in a house of the Sun called Porren-Cacha, which is near Cuzco, they had the life of each one of the Incas, with the land they conquered, painted with figures on certain boards, and also their origin. Among these paintings the following fable was represented.

In the life of Manco Capac, who was the first Inca and from whom they began to be called Children of the Sun and to worship the Sun, they had a full account of the Deluge. They say that all people and all created things perished in it, in as far as the water rose above all the highest mountains in the world. No living things survived, except a man and a woman, who remained in a box, and when the waters subsided, the wind carried them to Huacanac, which will be over seventy leagues from Cuzco, a little more or less. The creator of all things commanded them to remain there as Mitimas, and there in Tiahuanaco the Creator began to raise up the people and nations that are in that region, making one of each nation of clay and painting the dresses that each one was to wear, those that were to wear their hair, with hair, and those that were to be shorn, with their hair cut; and to each nation was given the language that was to be spoken, and the songs to be sung, and the seeds and food they were to sow. When the Creator had finished painting and making the said nations and figures of clay, he gave life and soul to each one, men as well as women, and ordered that they pass under the earth. Thence each nation came forth up in the places to which he ordered them to go. Thus they say that some came out of caves, others issued from hills, others from fountains, others from the trunks of trees. From this cause, and owing to having come forth and commenced to multiply, from those places, and to having had the beginning of their lineage in them, they made *huacas* and places of worship of them in memory of the origin of their lineage which proceeded from them. Thus each nation uses the dress with which they invest their *huacas*, and they say that the first that was born from that place were there turned into stones; others say the first of their lineage were turned into falcons, condors, and other animals and birds. Hence the *huacas* they use and worship are in different shapes.

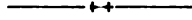
They say that the Creator was in Tiahuanaco and that there was his chief abode, hence the superb edifices—worthy of admiration, in that place. On these edifices were painted many dresses of Indians, and there were many stones in the shape of men and women who had been changed into those for not obeying the commands of the Creator. They say that it was

dark, and that there he made the sun, the moon, and stars, and that he ordered the sun, moon, and stars to go to the Island of Titicaca, which is near at hand, and thence to rise to heaven. They also declare that when the sun in the form of a man was ascending into heaven, very brilliant, it called to the Incas and to Manco Ccapac as their chief, and said: 'Thou and thy descendants are to be lords and are to subjugate many nations. Look upon me as thy father and thou shalt be my children and thou shalt worship me as thy father.' And with these words it gave to Manco Ccapac, for his insignia and arms, the *suntur paucar* and the *champi* and the other insignia that are used by the Incas like scepters. And at that point the sun and moon and stars were commanded to ascend to heaven and to fix themselves in their place, and they did so. At the same instant Manco Ccapac and his brothers and sisters, by command of the Creator, descended under the earth and came out again at the cave of Paccari-Tambo, though they say that other nations also came out of the same cave, at the point where the sun rose on the first day, after the Creator had divided the night from the day. Thus it was that they were called the Children of the Sun, and that the sun was worshiped and revered as a father.

They also have another fable in which they say that the Creator had two sons, one called Ymaymana Viracocha and the other Tocado Viracocha. Having completed the tribes and nations, and assigned dresses and languages to them, the Creator sent the sun up to heaven, with the moon and stars each in its place. The Creator, who in the language of the Indians is called Pachayachi and Tec-iviracocha, which means the incomprehensible God, then went by the road of the mountains from Tiahuanaco, visiting and beholding all the nations, and determining how they had begun to multiply and how to comply with his commands. He found that some natives had rebelled and had not obeyed his commands; so he turned a large number of them into stones of the shape of men and women, with the same dress they had worn. These conversions into stone were made at the following places: Tiahuanaco, Pucara, and Xauxa, where they say he turned the *huaca* called *Huarivilca* into stone, and in Pachacamac and Cajamarca, and in other parts. In truth there are great blocks of stone in those places, some of which are nearly the size of giants. They must have been made by human hands in very ancient times; and by reason of the loss of memory and the absence of writing, they invented this fable, saying that people had been turned into stones for their disobedience, by command of the Creator. They also relate that in Pucara, which is forty leagues from the city of Cuzco, on the Collao road, fire came down from heaven and destroyed a great part of the people, while those who were taking to flight were turned into stones.

The Creator, who is said to be the father of Ymaymana

Viracocha and Tocado Viracocha, commanded that the elder Ymaymana Viracocha, in whose power all things were placed, should set out from the point and go by way of the mountains and forests through all the land, giving names to the large and small trees and to the flowers and fruits that they bear, and teaching the people which ones were good for food or for medicine and which should be avoided.—*Bandelier in The American Anthropologist.*



THE STORY OF GILGAMES AND THE DELUGE.

The legend of Gilgames gives the wonderful story of that hero, who was king of Erech, called *Urut suburi*, "Erech of the enclosure." He heard of the existence of Ea-bani, a creature half bull, half man, extremely wise withal, and apparently determined to bring him to his capital, as his counsellor. Two women were sent to entice him to Erech; they succeeded in their mission, and he afterwards became the friend and companion of the hero. Gilgames then went on an expedition against the King of Elam, whom he conquered. Afterwards he came into conflict with the goddess Ishtar, who had proposed marriage to him, but whom he had repulsed, reproaching her with her treatment of her former lovers or husbands.

The result was that Ishtar sent a winged bull against Gilgames and his satyr-like counsellor, who, however, succeeded in killing the divine animal. A complaint was then made by the goddess to the god of the heavens, Anu, and in consequence of this, perhaps, misfortune came upon them. Ea-bani, the satyr, was attacked by some creature that caused his death, and Gilgames himself was stricken with a disease, for the cure of which he traveled far and wide. At last he set out to find the home of the Babylonian Noah (*Pir-napistim*), from whom he learned the story of the Flood, and by whom, aided by his wife, he was cleansed from the malady with which he had been smitten. After this he returned with the faithful boatman who had piloted him across the sea, to his capital, "Erech the Walled."

The poetical legend of the descent of Ishtar into Hades to seek Tammuz, the husband of her youth, has, as its introduction, a description of Hades which resembles closely that found in the legend of Gilgames, and on this account it has been thought that it may possibly be an extract from the longer work. The completion of the legend of Gilgames can alone solve this question.

RACES AND RELIGIONS IN AMERICA.

BY STEPHEN D. PEET.

The subject of comparative religion has been under discussion for many years, and some of the strongest and best thinkers have written upon it well and forcibly. The field which has received the most attention and occupied the most important position has been the continent of Asia, though Arabia, Africa, and the northern part of Europe have also been studied.

There is, however, a field on the continent of America which has not been studied as closely as it deserves, for it carries us back to a stage of religious development which is more primitive than can be found elsewhere, and at the same time presents a series of stages which are quite as interesting as those found in Eastern countries.

It is the purpose of the author to describe the different systems as they are found on this continent, especially in regard to their geographical situation, and to compare them with those which existed in Oriental countries in the earliest time, and to point out the resemblances. The thought which is to be held in mind, is that in America we have a field in which religion passed through those stages which are known to have been the lowest, and at the same time had reached a stage which was nearly or quite as high as any that has been found in the pagan or heathen nations of the Old World. This makes this continent a remarkable field for the investigation into the subject of comparative religion, and especially among the lower races.

I. The first point to which we shall call attention, is that the races and tribes which formerly had dwelt here, were not only isolated from other continents, but in a large degree from one another, but developed their religious systems in parallel lines. It is not claimed that there were any mountain barriers which separated the races according to belts of latitude and made them subject to such differences of climate, for the mountain chains all run in a north and south direction, while in the Eastern hemisphere they run in an east and west direction. Still it will be found that the races were so separated from one another that they developed different phases of society, different modes of government, different forms of religion, and to a great degree different languages. There were several causes of separation. In the first place, there

were wide belts in which the climate and soil kept certain tribes hugging the sea coast, and others the forest belts and regions in the interior.

The chain of the Great Lakes and the rivers ran east and west, and formed lines along which certain races clustered: the Gulf of Mexico and the Southern sea drawing other tribes. To the west of the Rocky Mountains there were rivers and long valleys in which separate tribes were settled, each having its own mode of life, its own social system and, to a certain extent, its own religious customs; while in the midst of the mountains and on the great plateau of the Interior there were other tribes and races, which adopted religious practices peculiar to themselves. The effect was that a great variety of religious systems arose on this continent: systems which were largely the product of the region, and greatly influenced by the peculiarities of the natural surroundings.

1. To illustrate: the Esquimaux were scattered along the shores of the Arctic Sea, and were confined to the ice fields and to a region where the year was divided into a long winter of darkness and a short summer of daylight. The natural consequence of this was that they developed a form of religion, or superstition, entirely different from any which existed elsewhere. The people here were fishermen and their religion consisted in the superstition which peopled the sea with strange creatures, which they imagined to have supernatural powers and at the same time had the human form. To the south of this was the second district, which extended from the Arctic Sea to the chain of the Great Lakes and as far south as the Ohio River. It was occupied by a people mainly hunters, who lived on the creatures found in the forests and rivers and lakes. It was natural that they should have developed a form of religion which had regard to the wild animals which prevailed in the forest, and that their mythology should have abounded with descriptions of strange creatures which dwelt in the water. Stories were told about fish and serpents which were naturalistic and at the same time fraught with supernatural powers.

2. There were tribes living on the prairies as far west as the Rocky Mountains and as far north as Lake Winnipeg, who might be called nomads and were constantly moving about in pursuit of game, spending a part of the time in villages scattered along the streams, and a part of the time in mountains. All of these tribes were totemistic in their beliefs, and yet their totems varied, for the people who dwelt in the forest took the wild animals which abounded about them, and made them their totems, while those who dwelt on the prairie lands took the buffalo and other animals which roamed on the prairies as their totems. The mythology of the two classes varied almost as much as did the animals themselves. Even the form of government varied—in one case it was matriarchy; in the other, it was patriarchy.

3. Another region is worthy of notice because of the diversity of population and the peculiar form of religion which prevailed. It is the region in which so many mounds were situated—mounds which contained a great variety of relics, on which the greatest number of symbols have been discovered. These symbols are speechless, but they tell the story about the religious system which prevailed, and have great interest for the archæologist. It appears that there was a great variety in these symbols, and the conclusion is that there was a great diversity in the religious beliefs of the people who dwelt here. They were symbols which abounded with crosses and circles, crescents and squares, animal figures, spiders, birds, and serpents; all of which had a latent significance. In fact, the symbols all indicate that sun worship was the chief system which prevailed here, though it was modified by the lunar cult, and by a regard for certain animals and insects, which were connected with Nature worship. This is the region where serpent symbols are very numerous, but the pyramid is also found here; the two indicating that there was a greater variety of religious systems than prevailed farther north.

4. The arid region will be considered next. This was separated from the region just described, by a wide range of mountains, but was, and still is, occupied by a people who have a form of religion, as well as a mode of life, distinct from either of those which have been described. Here we find mountaineers who are at present shepherds, but were formerly hunters. The Navajos are the best representatives of them. But in the midst of the mountains the Great Plateau arises, which has been called the "air continent." It is an arid region, yet it is occupied, and has been for an unknown period, by the Pueblo tribes, who have developed a communistic state of society and are practicing a form of religion which differs from any other on the continent.

5. There was a district in the Valley of Mexico, but which stretched far to the south into the region of Central America. Here society had developed beyond the hunter stage, even beyond the ordinary agricultural stage, into a stage in which there were many different employments, but all under the control of kings and priests. It was a region into which the Spaniards entered, and where they found many things which surprised them. The form of religion which existed here was a matter of greater surprise to the Spaniards, than the social development. The symbolism which prevailed here is very elaborate and worthy of study. There was here a system of writing, which differed from all others in the world, a system which consisted of hieroglyphics, but so mingled with pictographs that it was difficult to decipher. The system which existed here may be regarded as a solar cult, modified by the worship of the elements and a regard for personal divinities, who seem to be the personification of the heavenly bodies and

The continent of America, in fact, furnishes more systems of religion and of mythology than any other continent upon the face of the earth, but they are all systems which seem to have grown up in the same region where they are now found, and they are full of allusions to the physical character and topographical features of the region where they are preserved.

II. This brings up the point which is of great interest to the scholars who have studied the subject of comparative religions. One of the first questions is: What is the lowest form of religion, and through what stages did it pass? We, who live in Christian lands, know what the highest form is, but the question is as to the lowest.

On this question there are great differences of opinion, and no two are really in agreement. The study of the problem in connection with the races which were found on this continent, may be of service to us, especially when we consider the correspondence of their religion to their social state, their domestic life, and their peculiar habits and ways.

We begin with the Hyperboreans, who dwelt on the shores of the Arctic Sea, the most degraded of all the races upon the face of the earth. There never was a people more stupid in their religious ideas than these people at the far North, and none more degraded in their personal character. The dark night, which continued so long and presented such a strange contrast to the ghostly icebergs and cold ice fields, undoubtedly had the effect to keep alive the superstitions which prevailed. It is not strange that with the muttering icebergs and swashing of the waves underneath the icy shores, that there should have arisen a superstition that a supernatural being dwelt under the water, and could be seen at times amid the waves.

NOTE — The cuts show the power of the Shamans among the Esquimaux and their belief in the presence of demons. In one we see the boat resting on posts, the winter habitation, store houses, trees in the middle, the Shaman and the hunters. In another, the Shaman stands upon his lodge, and drives back the game, the deer are seen swimming in the water. In the third, we see the hunter shooting the game which has been driven up to him by the demon and his assistants. The control of the Shaman over the demon is the essential part of the pictograph.



The story, as told by the Esquimaux, is that Sedna was a female who accompanied her husband, or liege lord, in a canoe voyage over the northern sea, but while they were in the midst of the waters, there arose a fierce storm and both were likely to be overwhelmed. The canoe was overthrown, both fell into the water, but the man was able to climb into the canoe again, while the woman was only able to cling to the sides. While in this attitude the storm blew upon them and the waves threatened to engulf them, and death seemed near, but the man, taking his stone knife or axe, cut off the fingers of the woman and thrust her away so that she sank beneath the waves. The superstition of the natives is that this Sedna, who became a monster and yet retained her character as a woman, still lives under the sea and whenever a fierce storm arises and the waves toss high amid the blasts and the wind's shriek, they can not only hear the voice of this first of all created beings, but they can see her face and may look out from beneath the sea, the water and the ice mingling together to arouse their tears. Sedna is the chief deity of the Arctic regions. She may be regarded as the very indications of the sea and the storm, for she is supposed to be as cruel as either, and as ready to seize upon all who come within her reach and draw them down into the dark depths.

There is another system which prevails in the same region. It consists in the belief that there is not only one living person who can be regarded as a demon or a ghost, but that there are many such and they continue to inhabit the rocks and the cliffs and in the air, and are constantly present to do harm to the people by driving away the deer from the hunters, keeping them from success in fishing, and bringing upon them disease and death. This is another form of demonism, but the demon now becomes visible and incarnate, and is no longer the sea. There is no ordinary person who can drive away the demons or banish them from the sky or earth except the Shaman, and it is his chief mission to protect the people from his evil influence, and counteract it by his incantations. Illustrations of this fact may be found in what may be called the photographs or bone cuttings, specimens of which are given in the cuts. These carved bones are, perhaps, the most of all the specimens of art which have been discovered in this continent, but are suggestive of the system of carving which are used. Some have compared the bone carvings to those which are found in the caves of Europe, and have concluded that they are from the resemblance and other circumstances that the Eskimoes were the descendants of the old cave-dwellers of Europe, but we know nothing about the religion of these cave-dwellers, and, therefore, can trace no resemblance to the demon systems.

We can see, from the photographs and carved bones that the people of the Arctic region believe in the power of the presence of

demons, and therefore were led to rely upon the power of the Shamans, or priests, to dispel or drive away the demons, and to bring in the game. We see this illustrated by the cuts, in all of which we see the reindeer, and even the fish and other creatures subject to the Shaman, while the people were subject to his power for their very subsistence. This may be compared to that form of religion which prevailed in the far East in early historic times, which consisted in the belief in demons, and depended upon the power of the priest to exorcise them, survivals of which were recognized late in history, even among the Babylonians. Demonism similar to that which still prevails in the ice fields of the North, prevailed in archaic times in the regions of the far East, especially in Babylonia. This has been made known by the recent discoveries. It is supposed, also, that the various animal figures which are still common here, and have been discovered among the ruins in the midst of the mounds of Babylonia, are really the survival of the totemism which prevailed there.

Similar to this belief in demons and growing out of it, was the habit of cutting the shapes of the human face upon the surface of the rocks, and placing within them great glaring eyes, which seemed to resemble demons looking out from the depth of the earth, suggesting the thought that Sedna, the great demon of the sea, had changed her abode from the sea to the rock, and though silent and speechless, yet was haunting the earth. Some have interpreted this as an evidence that animism was the earliest form of religion, and that it prevailed here, along with demonism. This may, indeed, be a true interpretation, for it is one characteristic of the superstition that there is a hidden soul or spirit in almost every object in creation. It is not often that the soul has lineaments which can be seen, as in this case of the face in the rocks, but it is rather a shadowy ghost and is oftener heard of than seen. Such is the belief of the degraded Africans and many other races, who dwell far away from the seats of civilization.

The system of animism is associated with demonism, and awakens fear in the mind of the savage, just as the shadow and a ghost would awaken a fear in the minds of the partially civilized. The three systems which are to be found in the far North of this continent may well be compared to those which are called the rudest and lowest, *i. e.*, fetishism, animism and totemism.

III. The system of totemism comes up next for consideration. This has been often described, and yet it is poorly understood. It consists in the belief that animals were the first ancestors, and are at present the chief divinities. The names of the animals are given to the clans, with the idea that there is a charm in the name itself. To make this, however, more forcible, the people place the figure of the animal on the tents or in front of the houses, on their graves, and in every place

which they occupied. Some of the tribes cut the hair, so as to represent the animal whose totem they worshiped. There are individual totems which are in reality dream gods, for they are seen only after long fasting and in connection with their visions or day dreams. This form of religion is quite widespread, but prevailed mainly among the hunter tribes, but varies according to locality. The totemism which existed among the Algonquins differed from that found among the Iroquois, and this again from that found among the Dakotas, the variations appearing even among the separate tribes. The study of symbolism will bring us into contact with this totemism, and it is important that we should realize how deeply-seated it was in the mind of the people before we undertake to interpret the symbols.

It would seem as if all nature was haunted by supernatural beings, who were regarded by the people as tribal totems and



Fig. 4.—The Deer.



Fig. 5.—The Crane.

as personal divinities. These fabulous animals dwell under the waterfalls, in lakes, in caves, in trees, hills, and people the landscape everywhere, so that it seems almost impossible to escape from their presence and power. Reminders of the totems are found upon the tents and houses, the garments, personal decorations and ornaments, and fill even the amusements with strange associations and thoughts. The most singular feature about totemism is that every individual, as well as every clan and tribe, is under the special care and guardianship of some animal. The figure of the same animal is often placed upon the wooden tablets which are placed over

the grave of the individual. These grave posts recount the exploits of the individual, as well as the religious beliefs, and in this respect resemble the grave stones and monuments on which the virtues of the deceased are mentioned.

The cuts represent the grave boards which are still common among the Ojibwas. One of these (Fig. 4) represents the totem which is the deer, it is placed upside down, to denote the death of the person. Along with it are marks showing the battles which the person had fought, and below are personal decorations and signs of honor as well as the religious beliefs. Another one (Fig. 5) represents the crane, which was a common and prominent totem in the region. Figures 6 and 7 represent the turtle and the bear, which were also prominent totems. Figures 8 and 9 represent the grave boards of the



Fig. 6.—The Turtle.



Fig. 7.—The Bear.

Ojibwas, which give the private records as well as the totems of the individual.

It is acknowledged by all students of comparative religion that there is a complete series, which can be traced out by the study of the ancient monuments of the East; but that there was any such series to be found upon this continent, is somewhat novel, and yet the fact that we have the same social conditions here which correspond with those which were common in the East at various dates, makes the continent a very favorable field for the study of the subject. The prevalence of totemism in Old Testament times is shown by the dying words of Jacob, for in them he described the animal figures which were shown on the escutcheon of each tribe. The lion, on the escutcheon of Judah; the serpent, on that of Dan; the wild

ass, on that of Issachar; and the hind on that of Naphtali. Totemism prevails among the tribes of Arabia to this day. It also existed in Scandinavia and may be recognized in the mythology, as well as in the ornaments and symbols, especially the symbol of the dragon seen upon their boats.

A modified form of totemism is found in the Mississippi Valley, especially on the Ohio River and the Gulf of Mexico. Here we see amid the stone graves and in the mounds, a great variety of pottery vases, shell tablets, and other relics, on which are inscribed circles and squares and spiral lines, crescents, sun symbols, winged figures, and human images. These suggest a thought that sun worship was mingled with animal wor-



Fig. 8.—The Crane.



Fig. 9.—Dreams

ship and that religion had grown out of totemism into sun worship and assumed a new form.

IV. There was a system of religion which prevailed among the tribes of the Northwest coast. It consisted in the worship of supernatural beings in the form of birds, animals, fishes, and double-headed serpents; the four elements—air, earth, water and fire—each being represented by a special divinity. The bird, which is supreme upon the land, is the raven, called Yehl. It dwells in the forest, but reigns supreme over the creatures in the air. The bear is the animal which is regarded as the ruler of the earth. His supernatural character is shown by the manner in which he is pictured, for there always is a great

glaring eye looking out from every part of the body of the bear; his paws, his different limbs, his head, and his ears have eyes. In fact, he seems to be all eyes. This is, perhaps, a modification of the previous system in which the eyes were looking out from the solid rock, but in this case the bear seems to be alive, and yet possessed by a hidden spirit. The myths are very different from those which prevailed among the tribes of the Interior, for they relate to the adventures of sea monsters, who had the power of transforming themselves into human beings, and again into animals. This was the case with the totems of the hunter tribes, for transformation was very common and many stories are told of the tricks played by means of this transformation. There was such a correspondance between the animal totems and the Nature powers, that the animals were supposed to dwell at the different points of the compass and send the winds and the rains. These were not strictly totems, at least not personal or individual totems, but the mingling of the totems with the Nature powers personified, formed the basis of a great variety of myths, which are very interesting.

The sea is supposed to hide another divinity called the whale killer. This is a fabulous creature, and is capable of changing its shape, for there are many stories in which the creature appears as a great canoe, but is transformed into a sea animal. There are figures upon the fronts of the houses, which represent this whale killer as held in the claws of the raven, thus indicating that the sea gods and gods of the sky have been drawn close together. In this figure the eye is very conspicuous, but the winged feathers and the vertebræ of the bird and of the whale are also clearly seen. The double-headed serpent is generally carried in the hand, and is a symbol which served an important part in the dances. It is called the *sisul* and is generally worn in front of the stomach. The human face and eyes may be seen at the center, the animal head and eye at either end, with the serpent body and scales between the heads. This illustrates the habit of bringing together their divinities into one object.

The stories are numerous which celebrate the exploits of these various creatures, but they all convey the idea that they are supernatural beings and to be worshiped as well as feared. There are many dances and religious ceremonies in which the natives cover themselves with blankets and put upon their heads great masks representing the head and jaws of the wolf. This suggests the idea that human beings are sometimes transformed into animals, and reminds us of the transformation which is so common in all parts of the continent, for there were no hard and fast lines between the different animals, or between animals and men. The supposition formerly was that they were designed as the totems of the tribes, but the opinion now is that they embodied the mythologies and represent the villages, as each village was founded by a supernatural being,

who gave power and authority to the chief, or human founder, to represent him; the result was that the different crests were carved into the poles, some of them representing the supernatural being, the bird or fish, or some other animal; also the crest of the village chief, and the crest of the different descendants of the first chief. It is to be noticed that the humanizing tendency was very strong, so that all the birds and animals and creatures of the sea were spoken of as having human attributes; the eye, the symbol of humanity, being placed in all parts of the bodies, whether beasts or birds.

Mr. Hill-Tout says: "The sculptures and paintings were sacrificial and not totemistic in character." The son inherited his father's rank and property, with all his carvings and crests and emblems, which were largely commemorative in character. There was a tendency among all these people to humanize everything. The raven, the wolf and the bear, and all other animals were humanized, and stories were told about them, as if they were human beings. Conversation is held between men and women and the animals, and even between the heavenly bodies—the sun, moon, and the stars. There were no lines which separated the material from the animal, the animal from the human, the human from the divine or supernatural being. An immense amount of mythology has accumulated in this way, for everything on the earth, in the air, in the sea or sky, whether animal, men and women, or heavenly bodies, are mingled together, intermarry and converse, and their adventures are very numerous.

V. There is a form of religion still existing in the interior of the continent, which well deserves our attention, and we hope to describe it more at length in the future. It is found among the Navajoes, who dwell among the mountains of Utah and Colorado. This religion consists in the worship of the elements, such as the clouds, the sky, the rainbow, the mountains, lakes, hills, and also animals, birds, and other creatures, which inhabited them. The mythology is very beautiful and picturesque, and shows that the love of nature abounded with all this people. There is no mythology that is more beautiful than that which comes to us from the tribes who dwelt in the deep interior of the continent. Their mythology was founded upon their religion, and their religion sprang from the love of nature. We may call it superstition, yet it was a superstition that peopled everything with harmless divinities. Even the serpent, which was generally supposed to be treacherous and hostile and dangerous is represented as a benefactor, and always bestowing gifts upon the people; in fact, the serpent is a symbol of the rain-cloud, which is always a welcome visitor. The people watch the sky closely, for their very existence depends upon having rain.

There is a distinction between the religion of the Navajoes, who were formerly hunters but now are shepherds, and the

Pueblos. The Navajoes were mountaineers, yet they retain the same religion they had when in their wild state. Their mythology is very beautiful and abounds with allusions to all the beautiful things of nature—clouds, sunbeams, sparkling waters, crystals, rocks of the mountains, mosses, twigs of trees, animals which inhabit the caves and rocks, birds among the trees, supernatural beings that are in the clouds, divinities that dwell on the mountain tops; all are mingled together, and the strangest fancies are indulged in, in describing them. There seems to have been, also, a deeper apprehension of the meaning of nature than most people have, certainly much deeper and more varied than anything found among the white population of that region or any other. Everything was shadowy and filled with supernatural creatures.

VI. There was a form of religion which prevailed among the tribes of the Interior, which consisted in the worship of the Nature powers, under the figure of the serpent.

There are occasional figures upon the pottery found in the mounds, and upon the shields and other ornaments found among the Pueblos, which represent winged figures. These can hardly be called totems, for they are more like mythological creatures. They may be regarded as connecting links between totems and a higher form of symbolism. In will be seen in the figure that the serpents have feathered heads and large wings; the body is open, so as to show the heart. The sun symbol is connected with each winged serpent. The figures on the shields have wings, but they also have the serpent below the feet.

These serpents were also regarded as divinities which ruled over the different parts of creation. There was, however, the same superstition that prevailed elsewhere on the continent, that there were supernatural beings everywhere present, in the sky above, in the depths of the earth below, in different directions upon the earth; and that all the elements,—the air,



Winged Serpent.

the earth, fire, and water, were haunted or possessed by unseen creatures. The main difference between this system and that which prevailed farther north, was that the serpent took its place in the sky, instead of a raven, as it was the personification of the cloud and was supposed to bring the rains. This furnishes an explanation for the celebrated snake dance. The people, it appears, were not satisfied with offering their prayers to the cloud divinities, or making symbols of the rain clouds, when they performed their ceremonies, but they must have some live object which they could hold in their hands and mouth, and realize that they had brought it under their power. This was, perhaps, not thought out deliberately, but came to them from their habit of putting all their prayers into sacred dramas and religious ceremonies, and making everything as concrete as possible.

It is to be noticed here that no prayer was effective unless it was symbolized and made substantial by something that



Fig. 11.—Ornamented Wall of Buried City in Honduras.

could be seen. It was on this account that so many frames, which are called altars, are erected, consisting of painted slats of wood, while in front of them are other figures of the rain-clouds, surrounded by rods, the ears of corn and other objects placed as offerings in front of the altars. This form of religion is, perhaps, more reasonable than that which prevailed in the region of the North, for it consists of sacred dramas in which the prayers of the people are acted out, the ceremonies all proving to be very carefully observed, and there is generally a spirit of reverence among the people. The heavenly bodies are closely watched, especially the sun in its movements through the sky. The superstition is that when it approaches the solstitial point, that there must be a prayer and religious ceremony, or it will never return.

The Pueblos have a mythology which abounds with stories of the various animals, such as the wolf, the bear, the mole, as well as the serpent. The eagle is very prominent in their mythology. They carry with them shields upon which are inscribed or painted in different colors human figures, with turbaned caps upon their heads, symbolizing the mountains, a bear standing on either side, a serpent below the feet, thus showing the close association of animals, human beings, and deities, all mingled together and surrounded by the elements of nature. The serpent figures vary conspicuously in their mythology. Much can be learned from the study of their religious customs, and especially comparing the myths and ceremonies common among them, with those which prevailed among the wild tribes scattered about them.

VII. We shall next consider the religion of the so-called civilized races, such as the Nahuas, Mayas, and others situated



Fig. 12.—Fresco Figure from Mexico.

Mexico and Central America, including the Quichuas in Peru. The religion of the Mayas was fundamentally the same as that of the Nahuas. Most of the gods were deified heroes, though we occasionally find traces of an older sun-worship, and the conjecture is that an original astral worship once prevailed.

This is illustrated by the cuts. One of which represents a fresco on the walls of a buried temple in Honduras. In these frescoes human forms are covered with animal heads and surrounded by figures representing plumed serpents. Another cut (Fig. 12) represents paintings from Monte Alban in Mexico. In these an animal headed creature seems to be facing a stepped altar. The significance of the picture is unknown. Another cut (Fig. 13) represents a row of idols, which has also been

discovered in Honduras. There are no altars in front of these and so they form an exception to the general rule, for in most cases where human images are seen, there are altars in front of them; many of them being in the shape of animals or huge dragons or nondescript creatures.

VIII. There was a form of religion which prevailed in Peru. It consisted mainly in the deifying of the Incas, who were regarded as the sons of the sun, and so, in a measure, divine. The symbols in Peru were, however, mainly images of the sun and moon. These were placed on the walls of the



Fig. 13.—Idols in Honduras.

temples, the best specimens of which were seen by the Spaniards at Quito. It appears that sun-dials were numerous and that from these the Peruvian priests calculated the seasons and by this means regulated all the affairs of the nation. There were no such carved statues in Peru, as have been discovered in Central America, and no altars which betokened that sacrifices were offered to kings; yet the government of Peru was based on the idea that the Inca was superior to all, and that the Inca race belonged to a different order.

THE MAYAS OF CENTRAL AMERICA.

BY C. STANILAND WAKE.

We have recently been reperusing a book which, if its conclusions are correct, should be regarded as the most remarkable work that has proceeded from the pen of an American author. We refer to Dr. Augustus Le Plongeon's "Queen M^{oo} and the Egyptian Sphinx," published in 1896. The book contains much valuable information as to the archæological remains which are so abundant in Yucatan, illustrated by many excellent plates. For this, all antiquarians interested in the ancient civilization of the American continent must be highly grateful to Dr. Le Plongeon. Why, then, have they practically agreed to taboo the work he has done? We do not refer to the "students of American archæology and universal history," whom he specially addresses in his Preface, but to "the so-called learned men of our day," who, he says, "are the first to oppose new ideas and the bearers of these." We sympathize with Dr. Le Plongeon in this remark, but, then, we must add, that the new ideas, if true, will gradually force acceptance. This is general experience, and those who first opposed such ideas become their strongest advocates. Perhaps the time for this has not yet arrived, but surely, if it is to be so, we ought to see signs of its approach. Dr. Le Plongeon's views have been before the public ever since the publication of his "Sacred Mysteries Among the Mayas and the Quichés," in which work he gives the Maya alphabet side by side with the ancient Egyptian, to show their similarity. It may be that the very boldness of the author's conclusions has prejudiced learned men against them, particularly those who might be supposed to welcome outside light on the subject of their researches. Unfortunately specialists are very apt to look with an unfavorable eye on anything outside of their own particular specialty, particularly if the work of an "amateur," or, let us say, a non-professional. So that, in the present case, the very attempt to show a connection between Maya-land and Egypt may be expected to arouse the opposition of both Americanists and Egyptologists. And yet surely there must be some specialist sufficiently open-minded to investigate the truth of the statement, made by Dr. Le Plongeon, with reference to the legend on the frieze of the temple of Kabul at Izamal, that "anyone who can read hieratic Egyptian inscriptions will have no difficulty in translating said legend by the aid of a Maya dictionary." If no such person has done so, we think it must be because there is something radically wrong in the author's explanation of the facts.

To an ordinary reader this explanation is so extraordinary, that a prejudice against it is almost certain to be aroused in the

mind. Of course there are exceptions, and those who are more interested in occult matters than in those of everyday experience must welcome some of Dr. Le Plongeon's dissertations. We do not question the truth of his occult observations, but we doubt whether they give support to the far-reaching conclusions he has arrived at. How can the following statement be accepted as fact, without overwhelming and detailed proof, especially as the Mayas appear to have been limited to a small portion of the American continent: "Like the English of to-day, the Mayas sent colonists all over the earth. These carried with them the language, the traditions, the architecture, astronomy, cosmogony, and other sciences—in a word, the civilization of their mother country. . . . We find vestiges of it, and of their language, in all historical nations of antiquity in Asia, Africa, and Europe. . . . It is easy to follow their tracks across the Pacific to India, by the imprints of their hands dipped in a red liquid and pressed against the walls of temples, caves, and other places looked upon as sacred, to implore the benison of the gods—also of their name Maya, given to the banana tree, symbol of their country, whose broad leaf is yet a token of hospitality among the natives of the islands; then along the shores of the Indian Ocean and those of the Persian Gulf to the mouth of the Euphrates; up that river to Babylon, the renowned City of the Sun; thence across the Syrian desert to the valley of the Nile, where they finally settled, and gave the name of their mother country to a district of Nubia, calling it Maia or Maioo. After becoming firmly established in Egypt, they sent colonists to Syria. These reached as far north as Mount Taurus, founding on their way settlements along the coast of the Mediterranean, in Sidon, Tyre, the valley of the Orontes, and again on the banks of the Euphrates, to the north of Babylon, in Mesopotamia." If this series of migrations ever took place, then the civilization of the whole world, with the possible exception of China, Corea and Japan, has been derived from Central America, a country of a few million of inhabitants in its palmyest days.

It is true that Dr. Le Plongeon finds references in Maya records to the destruction of a vast territory in the Atlantic Ocean with nearly all its inhabitants, sixty millions in number, who may have formed the stock from which the Maya sprang.

Of the destruction of the Island of Atlantis, which is supposed to have been the last remnant of that territory, much has been written. The ancient Egyptians appear to have had a tradition of such a catastrophe, and if an Atlantis ever really existed, there may have been communication between Northern Africa and Central America thousands of years ago. It is with the ancient Egyptians, more especially, Dr. Le Plongeon would connect the Mayas, going so far as to say that they twice colonized Egypt, and that Queen Mœo erected the oldest monument—the Sphinx—to the memory of her assassinated brother.

husband Prince Coh, ruler of Yucatan, from which she had to flee to escape the vengeance of his brother Aac, whom she refused to marry.

That the ancient Egyptians had knowledge of the American continent is very probable, and we are inclined to think that the Atlantean continent referred to by some early writers, as pointed out by Dr. Le Plongeon, was actually America itself. There may have been a catastrophe destroying much land in the region of the Antilles, but the "destruction" of Atlantis, was probably only a metaphor denoting that America had become lost to navigators. The peoples of the eastern Mediterranean were the great navigators of the ancient world, and there is little doubt but that they reached this continent. Dr. Le Plongeon points out that Diodorus Siculus attributes the discovery of the Western Continent to the Phœnicians. He affirms that the Carthaginians reached the shores of Yucatan at least five hundred years before Christ, and he claims to have discovered portraits of Phœnicians at Chichen. If the decree mentioned by Aristotle as having been enacted by the Senate of Carthage, toward the year 509 B. C., to stem the current of emigration that had set toward the Western Lands, refers, as is supposed by Dr. Le Plongeon, to America, then there must have been constant intercourse between this continent and Northern Africa. Why, then, did this intercourse cease?

Dr. Le Plongeon says, with great propriety, that it followed from the destruction of Carthage and the supremacy of the Romans, who were not navigators.

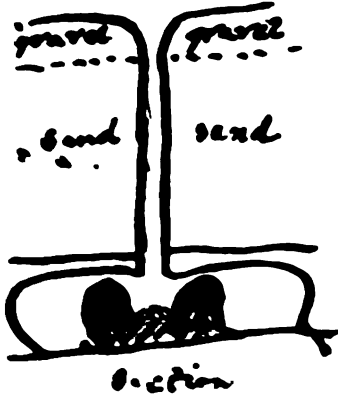
That there was a communication between the two continents for a long period is highly probable, at least, and by such a fact would we explain the existence of various similarities between the civilization of the Old and the New Worlds. But the current runs in a direction opposite to that suggested by Dr. Le Plongeon. It is now known that Egypt and Babylonia were great centers of culture six thousand years before the commencement of the Christian era, and there is nothing whatever in Central America to justify the assignment of half that period to its culture.* None the less Dr. Le Plongeon is to be congratulated on the good work he has done in collecting information which will aid largely some-day in deciding the important question of American origins.

*The great city of Angkor-Thom in Cambodia, Southern Asia, whose ruins present certain features in common with the ruins in Yucatan, was founded, according to oral tradition and the annals of Cambodia, in the year 443 B. C. Its temples show in their sculptures a mixture of Hindoo and Buddhist influences.

"DENEHOLES" OF ESSEX AND KENT, ENGLAND.

BY A. L. LEWIS.

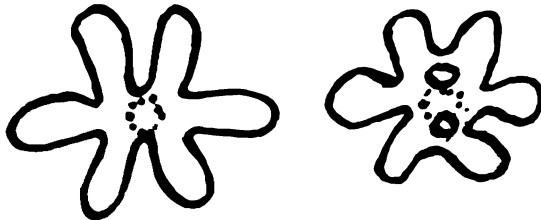
Not far from the banks of the Thames, between London and Gravesend, and on each side of the river, there are some deep narrow shafts, at the bottom of which are chambers cut



out of the chalk; these are called "deneholes," and, so far as I know, are not found anywhere else, and I think it may be worth while to place a short description of them before the readers of THE AMERICAN ANTIQUARIAN, so that if any similar excavations are to be found in America, a comparison may be made between them.

At a place called Hangman's Wood, near Grays in Essex, on the north bank of the Thames, there were more than fifty of

these holes in six acres; at this place the chalk is covered with a thin layer of Thanet sand, with a little gravel on the top, and three feet wide were sunk through these into the chalk. Small round holes were cut into the sides of the



Plan A

Plan B

the partitions between the shafts were standing as pillars. (See

the plan of the shafts at the foot of each shaft, and the plan of the shafts that have elapsed since its formation (what has been found, goes to show that they

are at least as old as the Roman occupation, and perhaps much older). Here and there the roofs have broken in, because they were cut too near the sand, and in several instances a chamber belonging to one shaft had been cut into, in making a chamber for another.

Several "deneholes" of the same kind are found near Berley, on the south side of the Thames, where the strata are similar to those at Grays. It has been found that the gravel and sand taken out in making the shafts had been spread over the ground between them, so as to preserve its level; while the chalk cut out of the chambers had all been taken away, and it has been supposed that these "deneholes" were merely chalk mines, but, as the chalk comes to the surface a very little way off, it is not likely that people would have sunk shafts sixty feet deep to get at it, although when dug out it was probably used in some way or other, and it seems, on the whole, that the hypothesis that the "deneholes" were the secret storehouses for grain, said by the Romans, to have been made by the Britons along the banks of the Thames, furnishes the most probable explanation of their existence.

ORIGIN OF THE ART OF WRITING.

BY HENRY PROCTOR.

Man wrote before he spoke. The gesture-language which preceded articulated speech, was a mode of picture-writing in the air, which led up by degrees to drawing on the ground, on bones, on stones, and on the bark of trees. Doing was earlier than saying, and dumb drama was enacted first. North American Indians still make use of gesture-language, and African nations, such as the Waganda, frequently have recourse to drawing figures on the ground to illustrate imperfect oral description, and show surprising cleverness in the truthfulness of their rough and ready delineations.*

Leibnitz remarked that the Chinese writing might seem to have been invented by a deaf person; its foundation being so like that of gesture-signs addressed to the eye. The oldest Chinese characters are called *Liang-Hing*, that is images or ideographs. A considerable number of these are identical with the Egyptian hieroglyphics. A comparison of certain Egyptian signs with those of North American Indians indicate a common origin. The Egyptians, in fact, engraved the same symbols which the Indians still figure in the air.

Things are portrayed before thought. Men thought in things, just as the deaf and dumb think and speak to-day. As one great writer remarks: "They were *thingers* rather than thinkers." From writing in the air to writing on the ground is

* *Natural Genesis*, Vol. I. (Massey).

a natural and almost insensible step, and thus we have ideograms representing not words. And thus Lenormant in his great work on the Phœnician alphabet,* affirms as an inconceivable fact that all systems of writing have originated in ideograms—the word is a picture of the object itself, and afterwards, by a gradual process, the same pictures were used to write the names of things. But the most primitive writings were written in ideograms and did not depict any sound; they were not, therefore, independent of words, having an existence and a signification apart from all pronunciation, and the spoken language was thus quite distinct from the written language, so that one could understand the one without knowing the other, and vice versa.

From writing ideograms ideographs there was a gradual advance to the writing of connecting each sign with an arbitrary vowel sound. The further step to syllabism was taken, and was completed in the older languages. In the Semitic languages the vowels being "lost," *"etyma,"* came to be written in the place of the vowels, and the word for father, *"ab,"* was written *"ab,"* the word for good, *"dignu,"* by *"dignu,"* and so on.

From the ideograph stage we passed beyond the syllabic stage, and the syllable was composed of a single syllable, *"etyma,"* and a vowel sound, and was determinative. Thus the syllable *"ab,"* represented the word father, and the syllable *"dignu,"* represented the word good. If we add to this syllable a vowel sound, and it becomes *"dignu,"* if the "key" *"dignu,"* is added, and it becomes *"dignu,"* if the sign for *"dignu,"* is added, and so forth. The elements of these languages consist of 250 phonetics and 250 ideograms. The Chinese, being a far more progressive nation, advanced the Chinese symbolo-phonetic writing to a higher stage of development.

From the ideograph stage a further step in the formation of the syllabic stage was accomplished, and the syllable was decomposed into the consonant and the vowel. The hieroglyphs which are the most widely-known of all hieroglyphs are the most widely-known of all hieroglyphs, and are the most widely-known of all hieroglyphs. Some are simple ideograms, so that the same word might be written in three ways, viz., ideographic, representing a matter of fact, or a sound; and the latter is the most common, representing a sound; and the latter is the most common, representing a sound. For further convenience the hieroglyphs were first simplified, until they reached the hieroglyphic stage, and finally the demotic or enchorial, which is the most nearly to the cursive writing of to-day. The hieroglyphs were used simultaneously for many centuries, but the hieroglyphs did not fall into disuse until the reign of Ptolemy B. C., but the written hieroglyphs were used for religious texts, especially for religious texts. The hieroglyphs were used to prove that the Phœnician and, conse-

quently, our modern alphabets, were derived from the Egyptian, but from the evidence at present available it seems probable that the Egyptian hieroglyphics were not the ancestor of any system other than their own. The tendency of research in this direction goes to show, rather that many systems of writing were invented and grew up independently of each other.

SOME PAPERS READ BEFORE THE BRITISH ASSOCIATION IN 1904.

GROUP MARRIAGE IN AUSTRALIAN TRIBES.

Mr. A. W. Howitt read a paper on "Group Marriage in Australian Tribes," in which he confirms the position taken by Mr. L. H. Morgan, and observes that the native tribes which surround Lake Eyre, in Central Australia, had two forms of marriage. One followed upon betrothal of children by their mothers, and the other was the subsequent marriage of the woman to a younger brother of her husband. On ceremonial occasions this latter form of marriage was extended in the tribe by the allotment to each of men and women who were already allotted to each other under one or other of the two marriages. This group-marriage also occurred in other tribes in Southeast Australia, either in the form which it had in the Lake Eyre tribes, or as a survival of custom. It was shown by the system of relationship in the Australian tribes to have been at one time common to all. In the Lake Eyre tribes there was female descent with group-marriage. In other tribes in which group-marriage was merely a survival, or was merely indicated by the terminology of relationship, there had been more or less an approach to a form of individual marriage, accompanied by a change from female to male descent. Changes such as these were attended also by alteration of the social organization of the tribes. In one direction there had been a segmentation of the tribe from a division of two intermarrying exogamous moieties of the tribal community to four such divisions, and finally into eight, with a change also in the line of descent. In the other direction there had been a partial or complete loss of this division of the community into four and eight segments. The tribe had become organized on a geographical basis into a number of local groups, and these localities had become exogamous and intermarrying. In these changes in the organization of the tribes, the line of descent had passed from the female to the male line. In the Lake Eyre tribes a group of totems was attached to each exogamous society. These remained in existence in the segmentation into four and eight groups. In those tribes where the organization of the tribe had become local, the totem groups had either become more

or less extinct, or had changed in extreme cases into magical names without influence in marriage.

BREAK-UP OF THE MATRIARCHATE.

Mr. R. S. Lepper contributed a paper on the "Break-up of the Matriarchate," in which he considered the matriarchal country of Southern India, its former wide and present narrow extent, and as a stage of civilization. He indicated that as a working social system the advantages of the matriarchate were that it led to love marriages, terminable at pleasure and leaving the mother the custody of the children, whilst it facilitated natural selection and secured the liberty of woman. Its disadvantages were that it conflicted with the natural affection of father for child, caused the frequent desertion of the wife by the husband, and went against the desire to provide for wife and children independent of the matriarchal clan. In respect to the effect of progress on the matriarchate, great difficulty arose in alienating or even developing the land of the clan, owing to the necessity for getting the consent of every clansman, for the matriarchate put the husband in the position of tenant at will, never secure from eviction in favor of a successful rival. Nor was the wife ever sure of her husband's faithfulness. There thus arose a consequent dislike of the system by both husband and wife in cases of true love marriages. The tendency was for the matriarchate to pass into the patriarchate when the latter was the highest system known as practicable, owing to the unsettled state of society. After some remarks on the matriarchate as a political form, upon the patriarchal-matriarchal feud, and attempts that had been made to modify the matriarchate, Mr. Lepper concluded by saying that the revolt against the matriarchate had been very marked during the last twenty-five years.

CLASSIFICATION SOCIALE.

M. Edmond Demolins, of Paris, in a paper on "Classification Sociale," given in French, explained that his object was to substitute for the elementary and artificial classification of Le Play, which was to-day insufficient, a natural classification of human societies. This work was the result of twenty-five years of unceasing study since the death of his master, Frédéric Le Play; and as a result he had undertaken the work of making a classification of social types with reference to their total and general combination of characteristics, now better known than formerly, thanks to the progress of science, rather than upon the artificial classification on the lines of one characteristic only.

ORIGIN OF GREEK TRAGEDY.

Professor W. Ridgeway read an interesting paper on an anthropological view of the origin of tragedy, in which he explained that in the case of Greek tragedy scholars were agreed

until recently that it originated in the worship of Dionysus, that it was invented by the Dorians, that the Satyric drama was invented by the same Dorians, and that the thymele was from the outset the altar of Dionysus. He considered that all these propositions were either wholly, or in part, untrue. The evidence pointed to the conclusion that the drama in Greece originated in the worship of the dead long before the cult of Dionysus spread from Thrace. The claim of the Dorians, though quoted by Aristotle in the Poetics, was not endorsed by him. The only really Dionysiac part of the tragedy was the Satyric drama, which was of northern origin, and was appended to the old local ritual when the cult of Dionysus was superimposed on that of Adrastus or other local hero. And the recitation of a hero's fate at his tomb indicated that the thymele was originally the shrine or tomb of the local hero. The development effected by Thespis consisted, not in the introduction of an actor into the ceremony, or in the use of "tragic dances" for moral purposes, but in the separation of what had hitherto been a piece of religious ritual from the local shrine, and the conversion of it into a distinct form of literary performance which could be enacted anywhere. It was in this sense that Thespis "carried about his plays on wagons." The analogy of medieval drama was exact; originally a piece of religious ritual performed in church, and based on a particular set of incidents, it became detached both from locality and topic, and fell into the hands of "strolling players."

ROYAL TOMB OF MENA.

Mr. J. Garstang read a paper on the so-called "Royal Tomb of Mena, at Negadeh (Nagada) in Upper Egypt." He showed photographic slides of it, and explained that his excavations had been supplementary to those of M. de Morgan, and that the results suggested that the tomb was really that of Mena's mother.

INTERMENT OF THE EARLY IRON AGE.

Mr. F. R. Coles and Dr. T. H. Bryce presented a paper on an "Interment of the Early Iron Age found at Moredun, near Edinburgh." It was the first completely attested instance of an interment associated with relics of the Early Iron Age in Scotland, and was discovered in August, 1903. The human remains were contained in a cist, 4 feet long, 2 feet 3 inches wide, and 22 inches deep, covered by several flagstones of varying size. The relics comprised a fibula, a ring brooch or huckle, and a circular open unornamented pin-head. A comparison of the two skulls with those of the district, showed agreement in general characters, and rendered it probable that the type now prevailing in Midlothian was already established when the interment took place.

Dr. T. H. Bryce also read a paper on "A Phase of Transi-

tion between the Chambered Cairns and Closed Cists in the Southwest Corner of Scotland."

Mr. R. T. Gunther made some observations upon *cimaruta*, a well-known Neapolitan charm, consisting of the reproduction in silver of a sprig of rue from which it got its Italian name, to which was appended in most examples a large number of subsidiary charms. The paper was illustrated by lantern slides and examples of the charm.

Professor E. B. Poulton exhibited a series of palæolithic implements from the northeast coast of the Isle of Wight, a locality in which palæolithic implements, he said, had not previously been found. The series exhibited every stage from the simple flake to the finished implement, clearly indicating that the implements had been manufactured *in situ*.

Professor A. Macalister exhibited a series of skulls from the excavation made at Gezer by the Palestine Exploration Fund, representing the ethnology of the third and fourth strata. As the peoples of the first and second strata practised cremation, skulls from these strata were not represented in the series.



SOPHISTRY ON THE SUBJECT OF COMPARATIVE RELIGIONS.*

BY FREDERICK BLISS, D. D., LL. D.

The free-thinking theologian will declare that when he frees himself from Christian dogmas, he is the representative of the "universal science of religion." Single religions, such as the Christian, the Jewish, the Mohammedan, are only the material out of which the universal science is composed. That is exactly as it is with history, whose single facts should be only material for something general to be built up out of them. Let us take animism as an example. Every man has a soul, even the Negro and the Red Indian; therefore animism, *i. e.* the worship of souls, can be found among all peoples. Everywhere men recognize the soul as the most imperishable essence of the man, and they feel also that the departed must be living in a higher form of existence.

Animism has been the ground-form of religion among all peoples, and out of it all religions have been evolved; just as, according to Darwin, out of imperfect life more perfect continually arose. Yet the Greeks, so far as we know, honored their dead, while they paid a higher worship to the gods of heaven and of the earth and of the under-world. The proof, therefore, fails completely with them, and with the Romans and the Teutons as well. The sophists, English and German, try to do what is impossible, namely to explain religion in all its forms, the lowest and the highest, from the nature of man.

* Borrowed from the *Signatory Times* for October, 1904.

But religion is a relation between God and man, between the Eternal and beings who are of yesterday. Now how can the relation between them be explained from the weaker factor alone, the infinitely stronger one being completely ignored? Is it not atheism to suppose that religion arose in man and was only evolved out of man? Can any facts to prove it be found among the Israelites? None. Though there are at least so-called survivals, remains of an earlier faith driven out by the worship of Jehovah.

ASSYRIOLOGY AND THE HISTORY OF RELIGION.

Certain Assyriologists derive everything from Babylon. The Odyssey, the seven Kings of Rome, and the Athenian Tyrannicides. A spirit of perverseness, has entered into them. There was a book which attempted in quite a comprehensive manner to carry back New Testament and Old Testament narratives to Babylon. Eberhard Schrader, one of the founders of Assyriology, had published this book, "The Cuneiform Inscriptions and the Old Testament," which gives all the parallel cases and coincidences between the two. It was strictly scientific, and very tedious for the uninitiated. The third edition had become necessary, and the author, on account of his health, had to resign its preparation to others, *quos honoris causa non nomino*. They have removed what was most scientific, namely, the Assyrian texts, substituted for them plenty of sophistry, and even enlarged the title to include the Apocrypha, Pseudepigrapha, and the New Testament. By one of the editors the following subjects are referred to Babylonian originals: the Divine Sonship; Messiah Christ and His fight with the devil and with Antichrist; His death, His three days' sojourn in the grave; His descent into hell; His resurrection and ascension to heaven.

But between those Assyriologists and us there is this difference, we trust to impress even the twentieth century by scientific facts; whilst they fear that, since everything in Babylon was inferior to what can be found in Greece and Rome, and since, moreover, the Assyrians were an unspeakably abominable people, they could not make themselves interesting without sophistry.

HONORING THE DEAD.

When anyone died, the relatives tore their clothes. Why? To pay divine honor to the dead, says one; so here we have animism. Or, says another, slaves wore tattered garments, and they also wore sackcloth; therefore the mourner, in tearing his garments, till he could get hold of sackcloth, declared himself to be the slave of the departed. The plant *hellebore*, which grew luxuriously near the town of Anticyra, was used as a remedy for mental disturbances, which were attributed to black gall. But now comes another, and

his three days' time of the sojourn in the kingdom of the dead must have belonged originally to the moon. The three days of the invisibility of the spring new moon must have been attributed only secondarily to the sun.

Let us just have a look at this sophism by day. The sun-god Marduk is compared with Christ; the former is said to be the sun god. Now with him there is no trace of a three days' sojourn in the kingdom of the dead. Therefore the sun must be laid under contribution, and it is supposed to be brought over from her. So they now reason thus: Christ for three days, therefore also Marduk for three days. But, to be sure, cannot be proved, and just for that reason probably not original, but it has all been carried over from the moon to the sun in later times, yet still before the Christian era. Now can the three days be authenticated about Christ? Not at all. In the passages to which we are referred, 3 occurs certainly as a sacred number of the moon-god, but we seek in vain for 3 in the texts. That is an imagination got elsewhere.

In Revelation there are *seven* candlesticks, seven spirits, seven angels; evidently the *seven* planets of Babylonian astrology. The *four and twenty* elders are the *four and twenty* stars of the Babylonians. But where are the *thirty* other stars and the *twelve* who rule over them? Why is there nothing corresponding to these? The four beasts of the Apocalypse, Lion, Eagle, Ox, and Man, are four constellations of the zodiac. But the constellation of the Eagle does not belong to the zodiac, and we can hardly, like our author, explain the man as the Scorpion. But even were all these identifications granted, would that prove that heathen mythology has penetrated here? Not in the least. The modes of contemplation, in regard to numbers and forms, were, let me say once for all, the common Oriental ones, but the spirit is fundamentally different. The Apocalypse makes use of heathen numbers, just as it makes use of the originally heathen language of the Greeks.

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PROFESSOR CURTISS.

Prof. S. Ives Curtiss of the Union Theological Seminary of Chicago has during the last three or four years taken several expeditions to Palestine, with the purpose of tracing the survival of ancient Semitic worship in the shrines, sacred groves, and high places. This is all together a new line of archaeological research, but one that has already yielded important results. The worship upon mountains, on hills and trees was nothing new, for Abraham offered his son upon a mountain; Jacob offered a sacrifice before parting from Laban, upon Mt. Sinai God revealed himself to Moses.

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III.

IN THE BRITISH MUSEUM

AD BOSCAWEN.

ment of the collections under the
the Egyptian Department of the
great progress. Still more import-
Egyptian art and history, has been the
important section. Rich as the col-
quities in the British Museum is, and
pt that at Cairo, there were still some
represented. Chief among these was the
Dynasties, 3800-3200 B. C., generally
Age; a period of the greatest historical
For, from a historical point of view, it
riarchal, peaceful, feudal age—there being
imperial expansion such as flourished under
the only military operations being those for
the valuable mines and quarries in the

sinaitic peninsula. In art it affords one of those strange paradoxes the East is so liberal in producing, for the art of this period is far more beautiful and true to nature, far more carefully executed, than at any other period.

This is demonstrated by the small but extremely valuable collection now exhibited in the Egyptian vestibule at the east end of the main Egyptian gallery. Here we have a series of monuments and inscriptions which belong to the Pyramid Age from the second to the sixth dynasties. The earliest monument is one of particular interest. It is a sculptured panel from the tomb of an official named Shera. Shera lived early in the Third Dynasty, about 3800 B. C., and "Ka servant," or private priest, attached to the worship of the tombs of Per-absen and Sent kings of the Second Dynasty. There is a portion of the sculptures of this tomb both in the Ashmolean Museum at Oxford and in the Cairo Museum. From these we learn further details of this official of nearly six thousand years ago. He was related to the royal family, as also was his wife Res Khentek. He was chief libationer and temple superintendent. Shera is represented seated on his seat of office and holding his staff of office in his hand. This is the oldest historical Egyptian inscription in the Museum. There are a number of the funeral stele of officials who were attached to the mortuary chapels of the tombs and pyramids of the first Pharaohs. Qerts, also a royal prince and judge, who calls himself "royal son of his own body," was attached to the Pyramid of Seneferu. There is also a fine stele of Khennu, who was priest of the pyramid of Menkaura—the third of the great pyramids. His titles are chief libationer, priest of Menkaura, royal relative over the secrets, devoted before the great God.

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RECENT EXCAVATIONS AT CARTHAGE.

M. Gauckler, whose work in the excavations at Carthage is well known, has lately made an interesting discovery, having found one of the most important constructions of the Roman epoch. This is the theatre where Apuleius held his conferences, which is often mentioned by Tertullian and St. Augustine. It seems that the edifice was built at the beginning of the second century A. D., and was afterward destroyed by the Vandals. No exact indications have been given as to the site of the edifice, which was often confounded with the Odeon, recently uncovered near by, and it was supposed to have been entirely destroyed. The present excavations now elucidate this problem. The first trench which was opened in the supposed axis of this theatre proves that the structure is preserved in a fairly complete state, buried under 25 feet of earth, and that its dimensions are colossal. At the present time the excavators are approaching the stage, and are beginning to discover the architectural decoration of the latter, with its capitals and cornices;

EDITORIAL.

TRANSFORMATION MYTHS.

There is an element in the mythology of America which is very interesting, but not often described. It may be called "transformation," for that is the word which best expresses its character. It consists in the constant overleaping of those barriers which, according to modern science, separate the various orders of creation, and treats them as though they did not exist; mingling birds, animals, and human beings, as if they belonged to one order. The effect of this habit, or custom, is very peculiar, for it brings all the objects of nature, whether plants, trees, birds, animals, or human beings, indiscriminately together, and as a consequence there are many figures which are distorted and present a very strange appearance. Animals appear with human faces; human forms appear as having bird's wings, claws and beaks, but with arms and legs, having weapons in their hands, either fighting, or in the attitude of dancing; nondescript figures appear made up of forms of vegetation, such as trees, but surrounded by human figures, and yet mingled with serpent's jaws and all the varying symbols which may come from the creation without.

This element gives a great variety to native mythology, for there is nothing to prevent the stories which are told from transcending all material bounds. The imagination is given full play and the most extravagant tales are told, and seem to be believed, as though they were true. It is, however, not confined to mythology, for it forms a prominent feature in many religious ceremonies. In these ceremonies, creatures resembling animals, human beings and supernatural creatures are mingled together, and seem to be closely related. The animals do not themselves appear, but the persons who take part, are so covered and dressed that they resemble animals, and attitudes are taken which imitate the motions of the animals. It is an element which often appears in the relics and gives a peculiar character to aboriginal art. There are many specimens which show great taste for colors and correct ideas of form, and much skill in representing forms and faces; yet as a fact there are no limitations to hinder, and the strangest creations appear.

The same element of transformation also appears in all the secret societies, and forms a prominent part of all the sacred mysteries. It also enters into the amusements, public dances, and open air performances, and gives to them their greatest

zest. It exists among all the tribes, but varies according to their social condition and habits, for the hunter tribes have one system; the agricultural, another; the mountaineers, another, and those who dwell in the arid regions, still another, though the equipments and ceremonies of all partake of the physical peculiarities of the region in which they take place.

The strangest thing about this "transformation," is that it increases, rather than diminishes, as civilization advances, for



Fig. 1.—Man-Eagle.

the most elaborate and complicated figures appear where art and architecture are most advanced, and where the people have attained to wealth and power. Illustrations of these different points are numerous and are found among the various tribes.

There are many stories told among the Crows, a tribe situated in the northern part of Montana, about the different animals, and especially the coyotes. These are turned to buffalos, bears, bulls, bald-headed eagles, and thunder birds. There are also

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transformed into these very creatures. They have also a ceremony in which some person, who is hidden in an adjoining room, bursts through the barrier and suddenly appears in a striking attitude. (See Plates.) The best illustration is found among the Navajoes, among whom the sand paintings are the most conspicuous objects of native art. These consist of figures which represent the Nature powers. Rainbows which form arches resembling the arch of the sky, are humanized, having heads and arms at one end, and body and legs at the other. There are sunbeam rafts in the form of crosses, made of different colored sand, and upon these are placed the figures of goddesses, which have many-colored skirts and wear caps or hats



Fig. 2.—The Maya Gods of Death, Life and Growth.

which are trimmed with fleecy clouds; around their waists they wear sashes, which resemble rainbows; at their side are birds and animals which come from the mountains, also, sprigs and sprays which come from the forest. The sand paintings represent the personal divinities of the Navajoes, and in this respect resemble the sacred dramas of the Zunis and the codices of the Mayas.

The figures in the cut are from the Dresden Codex and represent the Gods of Death, Life and Growth, as well as the various operations of nature.

The Pueblo tribes also believe in this transformation, and embody their belief in their dances and ceremonies in such a way as to make them the most realistic of all the religious cere-

monies that are known. Among this people are many so-called "altars," which resemble the "sand paintings," in that they present a great variety of figures or symbols, and with all colors displayed upon them. These altars have been described by Mr. J. Walter Fewkes, who explains their different parts. It appears that every clan had a great sky god, and an earth god, or goddess. Each clan also had its totemistic ancestors, male and female, and culture heroes, or heroines; these are impersonated symbolically, and may be represented by a human being, or by animals and birds, or by all combined. In these altars are medicine bowls covered with symbols, also radiating lines of sacred meal representing the six directions; ears of corn of different colors, which corresponded to the directions: Yellow, for north; blue, for west; red, for south; black, for the above, and speckled, for the below. The altars are made out of wooden slats cut in shape to resemble the human form, but painted with many different colors. A large number of them are placed upright, making them resemble an old-fashioned fire-place, while in front of them are figures made of different-colored sand, surrounded by images of various kinds and ears of corn of different colors. They are called altars because they are objects of worship and are full of symbols.

There are pictures of "the Growth God," and slats bearing symbolic birds; also boards painted with semi-circular figures representing the sky; parallel lines symbolizing rain, zigzag markings symbolizing lightning; also images which are the tutelary "clan ancients," and others representing the sun and "Germ Gods"; also the butterfly symbols, and many other objects.

The public dances of the Hopis and other Pueblo tribes are also full of symbols and ceremonies, which are the result of this belief in transformation; and many different societies embody the belief that supernatural beings were present. Mr. Fewkes recognizes strong affinities with the tribes further south, such as the Nahuas and Mayas, in these ceremonials, and traces a resemblance between the symbols common among them and those found in the codices.*

Among the partially civilized tribes of the Southwest, mainly the Nahuas and Mayas, the same supersitition formerly prevailed, for here we find symbols of various kinds scattered among the ruins, and also see pictures with many colors and strange figures, in which there is a mingling of all orders of creation in the codices. In fact, this element of transformation is so prominent in Mexico and Central America, that it furnishes us a key to the solution of the problems which have been very difficult.

There are in the codices figures which represent the different

*See "Central American Ceremony, which Suggests the Snake Dance of the Tusayan Villagers." Reprinted from the *American Anthropologist*, Washington, D. C.: 1903.
Also, "A Study of Certain Figures in a Maya Codex," Washington, D. C., July, 1894.

divinities. Some of them appear in skeleton form in strange attitudes; others have faces with peculiar expressions, but from the mouth are seen issuing serpent tongues. Other figures are partly animal and partly human. The whole picture or page represents creatures in the most grotesque attitudes, but all of them so strange and shadowy that we can scarcely tell whether they were intended to represent animals, human beings, or divinities, and yet they are in the midst of hieroglyphics which evidently tell the story of the past. (See Fig. 2.)

There are also among the codices charts which contain trees in the form of crosses, with flowers at the end of the branches. Above the trees are birds of different kinds, while below may be seen the jaws of serpents and other strange figures. Repre-

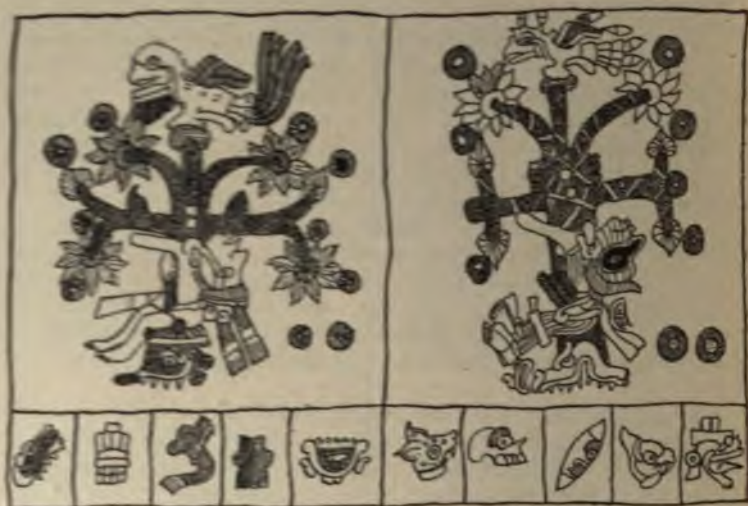


Fig. 3.—The Tree of Life Transformed.

sentatives of all the different orders of creation are mingled together in a strange way, and yet make symbols which represent periods of time and convey religious thoughts.

It appears from this, that all the different kingdoms of nature are combined together and symbolized; the sky above, by the birds; the earth, by the plants and flowers; the realms below, by the dragons' or serpents' heads. The four seasons were also represented by the four trees; the four directions, or cardinal points, by the branches of the trees.

There were many religious ceremonies, also among the partially civilized tribes, which depended upon this element of transformation for their effect, and there are even temples and palaces which present strange figures in their interior, in the shape of crosses surmounted by birds, with a human form on either side, and contorted animals below them; the whole

symbolizing the Nature powers, and at the same time forming objects of worship.

In studying the symbols which are thus brought together in the calendars and codices we will find that nothing appears separate and distinct, for all the realms of nature are united; the Nature powers being generally represented by human creatures. It is remarkable that symbolism should have been carried so far by these partially-civilized peoples, but it must be remembered that pictographs and symbols took the place of writing. The pictographs were historical records, but these charts were calendars, from which the priests and learned men reckoned the time. The employments of the people, as well as their religious ceremonies, were regulated by the priests,

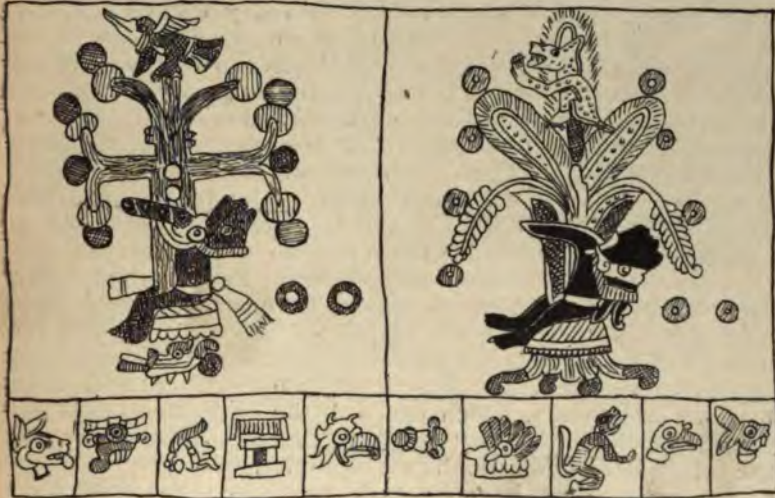


Fig. 4 — The Tree of Life Transformed.

who studied these calendars and their symbols, and it is supposed by some that the astronomical events and long periods of time were recorded by them. The codices contain the best specimens of transformation, for in these the divinities are represented, generally by human figures in such a way that their sphere of action and character are plainly indicated. The transformation is not so apparent at first, yet the more we study the codices and calendars, the more we realize that all the realms of creation are represented in them, but are strangely blended and interchanged.

It will be noticed that there are, below the figures of the trees twenty different symbols, consisting of birds, animals, minerals, reptiles, house, &c. These are grouped so as to represent the twenty days of the month divided into four weeks of five days each. We find in these symbols and the accom-

panying pictographs, a chart which gives to us a pretty correct idea of the calendar which prevailed among the Mayas.

It was, however, the religious sentiment that gave significance to the symbols, for this threw a mysterious air over all the realms of creation, and mingled the natural with the supernatural. The study of the symbols convince us that the same general principles which were embodied in the ceremonies and in the relics of the wild tribes were brought together in a small compass and presented to the eye by the mute symbols, which required close study to understand and interpret.

Interesting specimens of this transformation may be found in Nicaragua, for here we see idols, finished in the round but in singular attitudes, while upon their shoulders and above their heads may be seen the great jaws of crocodiles; and again other figures, with a semblance of bears, yet having human forms. This element of transformation appears even in the codices and sacred writings of the Mayas, for in them we see rows of hieroglyphics, but between the rows are nondescript creatures, dressed with varied costumes and assuming different attitudes, but upon their heads they wear ornaments which are in reality symbols. Their faces are very unnatural, for, while they have the eyes, nose, and mouth of human beings, there can be seen the serpent fangs and tongues and other strange symbols which transformed them into human beings.

This element of transformation seems to have had effect upon the architecture of the region, for nearly all the palaces have façades on which are sculptured figures of plumed serpents, and above them are seated figures with glaring eyes and hooked noses, generally called the manitou face, and many barbaric ornaments, which can only be understood and explained by the mythology which prevailed. We may say that the religious ceremonies, the mythologies, and the symbols of all the tribes cannot be understood, unless we take this element of transformation into account. By its aid, however, we may trace the connection between the different tribes and races, and learn that there was a mass of symbolism which was transmitted from the past.

Discoveries are being made which show the prevalence of this system. Even the best specimens of art seem to have been affected by it. The beautiful urns which have been recently exhumed in Nicaragua, are now in the possession of the Museum of Natural History of New York.

It is worthy of notice that among the tribes of the Northwest coast the chief divinity was called the "Transformer." Such, too, was the real character of the divinities of the Navajoes, the Zunis, and the various Pueblo tribes.

RECENT DISCOVERIES.

PROTO-CORINTHIAN fragments belonging to prehistoric and early historic times have been found at Angina.

GALLO-ROMAN BRONZES, including statuettes of Mercury and Mars, an open hand, a dauphin, etc., are now in the museum of Mt. Belliard, France.

A ROMAN BRIDGE.—The remains of a Roman bridge across the Main have been found near Krotzenburg. One pier was discovered on shore and eight under water.

AN ALTAR, reached by several steps and covered with a portico, with Doric half columns, has been found at Mt. Lycæus, Arcadia. This altar and portico resemble those found in Asia Minor.

TEMPLE OF ARTEMIS.—Tombs, forty-two in number, containing cinerary urns and coffins, have been discovered at Rome, near the above temple. They contain a few hut urns and a little bronze animal.

A LAOCOON relief on red ware from the Lazoux potteries, plainly a copy of the Laocoön group, has been found. To the same potteries belong the figure of Hercules and the Serpents. The potters know only pagan subjects, with not the least trace of pagan influence.

A PAVED ROAD which seems to have formed the southern limit of the Forum at Rome, during the late republic, has been found near the Arch of Augustus. In the central area of the Forum a large mass of concrete, supposed to be the base of a statue of Domitian, has been discovered.

CREMATION.—The contemporary use of cremation and interments were practised all over the Greek world after the time of Homer. Three undisturbed graves—one, a cremated burial; two, simple interments—were discovered at Carnac, just outside the north wall, date from 300 to 700 B. C.

CRETE.—The palace has been cleared, revealing an outer and inner court; a square hall, with seats on three sides and two stairways. A new part of the town has been uncovered, containing small, well-built houses, surrounded by paved streets. These were the results of excavations by Miss Boyd.

GEZER.—A huge rock-cut cistern belonging to the Maccabæan period has been found by Mr. McAllister; also some Astarte plaques, an evidence of sacrifices for the human foundation. The practice of human sacrifice in laying foundations seems to have been very widespread, for it prevailed even on the Northwest coast of this continent.

A BAKER'S SHOVEL, such as is still in use for putting bread into the oven, was discovered in a recently excavated Roman well in the Saalburg. Similar instruments are represented on Roman frescoes. A silver coin of Antonius Pius, a bronze coin of the Empress Faustina, and a well-preserved leather shoe were among the contents of the well.

SPECIMENS of archaic and classic Greek art, also Hellenistic, Etruscan, Roman, Pompeian, Egyptian, and Gallic, illustrating the life, art, and religion of the ancient world, are gathered into the museum at Berlin, called the Aquarium. The bronzes include dishes and basins of every kind, personal helmets, sandals, horse-trappings, and statuettes.

A PREHISTORIC MOUND containing the calcined bones of animals, cattle, swine, sheep, goats and horses has been discovered, showing that it was a place of sacrifice and feasting for many years. There were remains of funeral feasts. The pottery belongs to the Bronze Age. Salt springs in the neighborhood suggest the idea that it was a tribal center.

CNOSSUS.—A telegram from Arthur Evans to *The Nation*, May, 1904, relates to the discovery of a great mausoleum, with a lofty cyclopean gate, but approached by an arched passage. The grave probably was built for one of the Minotaurs. A rich deposit of inscribed tablets and arrows relating to chariots and arrows, and a horde of bronze arrow heads, with remains of chests and official ceilings.

A ROMAN MOSAIC.—A large mosaic pavement, with an ornamental border enclosing three rectangular spaces, surrounded by four hexagons and pentagons, also octagons, has been found at Tyre. The octagons contain heads of Athenæ and Hermes, and the winged heads of wind gods. There are six rectangles containing a standing male figure in Greek costumes, apparently portraits of philosophers or literary men.

PHENICIAN and Cyprian art, and also late Mycenæan, Rhodian, Corinthian, Attic, and Hellenistic art, are found in the museums of Freyberg, Baden, and Colmer, Germany. The Mycenæan belong to the geometric transition; others belong to the Augustan period. A good boar's head of bronze and a bronze statuette of Mercury belong to the Roman period. A flute player was found at Freyberg; it has a bronze figure surrounded by a group of geometric pyramid idols.

ARCHÆOLOGICAL NOTES.

VILLAGE SITES IN ONTARIO.—Mr. Andrew F. Hunter has been exploring the village sites of Ontario, and has published the results in the Ontario Archaeological Reports for 1902-3-4.

GAME DRIVES. One interesting result of Mr. Hunter's explorations has been to confirm Champlain's description of game drives. The method of hunting deer was by staking out a large space in the woods, with an angle into which the game was driven. The same method was also used in making fish weirs, the stakes being driven into the water. Mr. Hunter thinks that the name "Hurdle Lake" came from the fact that such fish weirs, made out of stakes driven into the water, were discovered there at an early date.

THE LAST OF THE MOHEGANS.—Popular opinion has it that the last of the Mohegan Indians perished somewhere back in the century before the last, when Uncas, J. Fenimore Cooper's hero, was slain by the treacherous Huron, Magua. Popular opinion would, therefore, be surprised could it take a trip to the colony of Mohegan, several miles south of the city of Norwich, Conn., and there see the "Last of the Mohegans." Some fifty or sixty of this same ill-fated tribe inhabit the rocky pastures and barren hills, where, in former times, the dark forests cast their shade and gave their shelter to the wild creatures that afforded such bountiful subsistence to the redmen. The primeval forests are gone, but not the Mohegans; for although they have changed, through surroundings and civilization, they are, nevertheless, the Mohegans. Red skins, straight black hair, high cheekbones, and quick eyes are all there now as they were in the days of "sunjum" Uncas and Oneco. They are, however, no longer hunters and warriors; for farming and industrial labor have replaced the primitive occupations.—*The Nation*, 1904, p. 132.

THE ANTIQUITY OF CIVILIZATION.—"The First of Empires, Babylon," by Richard Boscaawen, is a book which brings knowledge up to recent findings. The author says Eridu and Ur, two of the older cities, were formerly close to the sea, but are now a hundred miles distant from it, by the increase of the delta lands, which some place at a mile in thirty years; others say sixty years, thus proving how old they are. The prehistoric settlement at Poucht-e-Koah show that the islands and the Persian Mountains were occupied by men in neolithic and paleolithic times, when the Persian Gulf extended 120 miles further up the valley than at present. There was here in

olden times a subsidence of land, which may have given rise to the deluge legends of the people. The oldest inscriptions yet found are those of Sip-purab, at Tellah. The agriculture of the Sumerian goes back to 4500 B. C., and was then practised in great perfection; but Elam was highly cultivated before Babylonia, and it was the indigenous home of wheat, also the vine and olive were grown there. The inscriptions there, were derived from the Babylonians about the time of Sargon, the first, in 3800 B. C. There are many interesting facts in this well written book.

BONE CAVE.—Prof. George F. Wright describes in the *Records of the Past* for July, the bone caves in Sicily. The most celebrated of these are at Palermo. This cave is 130 feet long, 30 feet wide, and 20 high. The quantity was so great that 20 tons were shipped to Marseilles. The accumulation shows that at a recent geological period herds of hippopotamus and elephants covered the plain on which Palermo stood. The bones were mostly those of hippopotamus, with a few elephant, ox and deer.

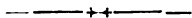
"TRANSFORMATION" AMONG THE TRIBES OF THE NORTHWEST COAST.—The Journal of the Anthropological Institute for May-June, 1904, contains the Report of Chas. Hill-Tout on the tribes of British Columbia, especially the Siciatl and the Kwakiutl. Among other things, the writer brings out many illustrations of what we have called "Transformation." It appears that the mythology of this region is full of stories of men and women, and even children, who have the faculty of changing the animals and birds, and even marrying them. One story is told of two children who had been kept secluded all their days, until they became young men. After they appeared, the young women were anxious to have intercourse and to marry, but they resisted. One of them, however, was charmed by a seal, which appeared several times above the water and finally came near the canoe and assumed the form of a young woman. One of the young men followed her, and dived down into the water and stayed with the seals. The young men, who had been secluded so mysteriously, were supposed to possess supernatural powers. The Siciatl believe that the raven foretells the death of anyone.



LITERARY NOTES.

Science of Man is the journal of the Royal Anthropological Society of Australia, and is edited by Dr. A. Carroll, Ph. D. The June number contains an article giving the aboriginal dialects and place names by Geo. W. Leney; also one on "Paleolithic Man in Australia" by Georgina King. The other articles are of a more general character. It is fortunate that so early in the history of the island this work has been undertaken, for so many changes are taking place that the facts and the real condition of the aborigines fail to be recorded.

Atlantic Monthly, October, 1904. —This journal keeps up to the standard and is both interesting and instructive. The article upon "English Style as affected by Typewriters and Machinery," is of interest to an archæologist. The same can be said of the article "Books, New and Old, and Clothes, Past and Present."



IN MEMORIAM.

DR. JOHN FRASER, an esteemed friend and a valuable contributor to **THE AMERICAN ANTIQUARIAN AND ORIENTAL JOURNAL**, whose home was at West Maitland, New South Wales, died on the 2nd of May, 1904, at Ambrym, one of the New Hebrides group. He was an excellent scholar and an accomplished gentleman. His contributions to anthropology were always instructive.

BOOK REVIEWS.

THE PERUVIAN STAR-CHART OF SALCANAYHUA. By Stansbury Hagar, Secretary of the Department of Archaeology, Brooklyn Institute of Art and Sciences.

Mr. Hagar is authority on the subject of the Peruvian astronomy, if it can be so called. The paper read before the *Congreso de Americanistas* is of great importance, for it shows the different constellations which were familiar to the Peruvians. The scheme of the chart is as follows: 1, South Pole; 2, Cross; 3, Universal Spirit; 4, Sun; 5, Morning Star; 6, Moon; 7, Evening Star; 8, Capricorn; 9, Aries; 10, Libra; 11, Cancer; 12, Virgo; 13, Sagittarius; 14, Gemini; 15, Pisces; 16, Taurus; 17, Leo; 18, Aquarius; 19, Scorpio. The first three are peculiar to the Peruvians; the following four are common to all mankind; the remaining are constellations which were known to the inhabitants of Babylonia at a very early date, perhaps as early as 4000 B. C.

The author of the pamphlet maintains that the same were found in the Peruvian zodiac, but under the other names.

Leo has the form of a puma. There is a cloudlike constellation, which takes the place of the Pleiades. There are on the chart two figures that resemble the Gemini. There is no such figure as Virgo, or Libra, or Aquarius, or Scorpio, that we can identify. The sign Sagittarius is represented by four stars forming a sort of square or cross, over which the lines can be drawn representing the arrows. The whole figure is the parallelogram of Orion.

The studies of the author are very suggestive and interesting, and probably will lead to the development which may prove that the prehistoric inhabitants of Peru emigrated from the Eastern hemisphere, and brought with them a knowledge of astrology.

FUNERAL URNS FROM OAXACA. By Marshal H. Saville. Author's Edition. Extracted from the *American Museum Journal*, Vol. IV., pp. 40-60. New York 1904.

This is a very interesting and beautiful pamphlet. The illustrations are very finely wrought. One can hardly realize the perfection to which the art of pottery was carried by the people formerly dwelling in Mexico. It is superior to that of the Peruvians. Some of the pottery portraits are very striking, these specimens were taken from ancient tombs in the Valley of Oaxaca. Some of the vessels are full of symbolism and represent animal figures; others human figures; and still others, human figures distorted so as to represent the supernatural being, the symbolism of the serpent's tongue and the manitous eye, and other figures which are suggestive of the supernatural.

PROCEEDINGS OF THE AMERICAN ANTIQUARIAN SOCIETY. Part XVII. Vol. II.

An article in this number treats of the myths and superstitions of the Oregon Indians, written by Wm. D. Lyman whose brother has written a history of Oregon. The article contains many suggestive hints. The writer maintains that the Indians are polytheists, resembling the Greeks, Hindus and Teutons, but they have a monotheistic idea. They believe in a kind of incarnation like that of the Hindus; yet they suppose that their shadows are manifestations of *Tamanowas*, and the good animals and birds are the forms which the benevolent deities assume. The Indians of the

Columbia basin have creation legends. The origin of fire is celebrated and spoken of in mythology, and the most beautiful of all fire myths is the one connected with the famous Tamanowas bridge at the cascades of the Columbia River. The struggles of the good deities against the bad is another feature. Among the most interesting and beautiful of the stories are those connected with the great mountain peaks. The writer maintains that there is a belief in a future state. It is a valuable contribution.

ARCHÆOLOGICAL RESEARCHES IN YUCATAN. Reports of Explorations for the Museum. By Edward H. Thompson. Memoirs of the Peabody Museum of American Archaeology and Ethnology, Harvard University. Vol. III., No. 1. Cambridge: Published by the Museum, 1904.

This is another of the valuable memoirs which are being published by the Peabody Museum. Mr. Thompson and Mr. Teobert Maler are both doing excellent work in Yucatan. The explorations described in this memoir are mainly in the Chultunes and the ruins in Yucatan. A palace resembling that at Labna is described and represented by a plate. This palace resembles those which were previously discovered, as it is characterized by a long façade which is ornamented by spindle-shaped columns above the cornice and solid pillars in the gateways. One chamber has an arched roof similar to those at Palenque, Chichen-Itza, and elsewhere. The stucco paintings upon a stucco-covered wall represent human figures, decorated with a band about the waists, and carrying baskets on their heads. These are frescoed in very delicate colors—pink and blue—and reveal a taste for colors resembling that of other tribes.

EXPLORATION OF MOUNDS, COAHOMA COUNTY, MISSISSIPPI. By Charles Peabody. Papers of the Peabody Museum of American Archaeology and Ethnology, Harvard University, Vol. III., No. 2. Cambridge: Published by the Museum, 1904.

The Peabody Museum has begun an exploration on what is new ground in Mississippi, on land which is overflowed by the river. This furnishes a reason for the building of mounds, especially large mounds. The builders of these mounds are not known, though the region was occupied by the Choctaws until about 1830. One mound in Oliver county yielded a large number of relics, mainly pottery vessels; some of them shallow dishes, deep vases, pots with handles, round vessels resembling modern tea kettles with spouts; also bottles with decorations on the outside, triune bottles with three long necks joining one spout, a large number of stone axes and spear heads, small beautiful arrow points, various bone relics, such as needles and awls, and a number of skeletons. It is well that the museum has entered this field, for we will probably have further reports of explorations, which will be carefully carried out, and the reports will be given in a definite form and sent to specialists for comparison with other finds.

EXPLORATION OF JACOB'S CAVERN, McDONALD COUNTY, MISSOURI. By Chas. Peabody and W. K. Moorehead. Phillips Academy, Andover, Mass., Bulletin No. 1; 1904.

This bulletin contains the account of the archæological explorations in the cave called Jacob's Cavern, about which so much has been written. It appears that in this cavern toad-stool stactites and stalagmites have been found, which were somewhat numerous. Within them were ashes, mingled with bones, flint, and charcoal. Thousands of flint flakes were found, which are supposed to have been carried into the cave, or produced by human agency within it, it is uncertain which. Six human burials, bundle type, had taken place. Large implements were lacking; fragments of pottery were present; nothing indicated great antiquity. No bones of extinct animals were found, though the types of stone implements are quite different

from those in the neighborhood. Outside of the cavern are large rocks polished apparently by the naked bodies or the skin clothing of human beings, which indicated a long occupation. At Eden Bluff are pictographs containing the usual cosmic symbols. The Osages were the occupants of this region at the opening of history, but it is uncertain whether the relics were left by them, or by a preceding tribe.

This is the first report of the new museum established at Andover, Mass., and it is devoted entirely to the exploration of this one locality.

THE ORAIBI SUMMER SNAKE CEREMONY. By H. R. Voth. Chicago: Field Columbian Museum Publication, No. 83, Vol. III., No. 4

THE STANLEY McCORMICK HOPI EXPEDITION. By George A. Dorsey. Chicago: Field Columbian Museum Publication, No. 83, Vol. III., No. 4.

This report is elaborately illustrated. The plates in it are from photographs, and are much better than those given in a previous report. They bring out the attitudes of the chief actors in the snake dance, and give to us an idea of the appearance of the country, the features and dress of the natives, the peculiar decoration of the dancers and their various attitudes, and all of the scenes which take place in connection with the snake dance. There are 70 plates in this report, and 219 in all, which, with the reports, give an excellent idea of this grewsome ceremony. The expense of publishing these reports and plates is borne by Mr. Stanley McCormick of Chicago.

AMERICAN JOURNAL OF ARCHÆOLOGY, Archæological Institute of America. Series II., Vol. VIII., No. 2.

This number contains an article by Benjamin Powell upon the history and topography of Orniadae, which was one of the first cities to develop near Athens. It is a fortified wall town in the fifth century B. C. The illustrations show gates with cyclopean walls. The history of the development of the arch is beautifully illustrated by the cuts, for in one we have a gate with a massive stone placed above gigantic piers. In another gate, the great stones forming the sides, overlap one another and come to a point at the top, with a single stone for its covering. Another has straight sides, but the arch is made by three massive stones, which are cut into the form of an arch. Still another has a straight side, but the arch is formed by a single massive stone, made into an arch. Only one, out of them all, has the gateway with the stones beveled so as to form the true arch, and this is without the keystone.

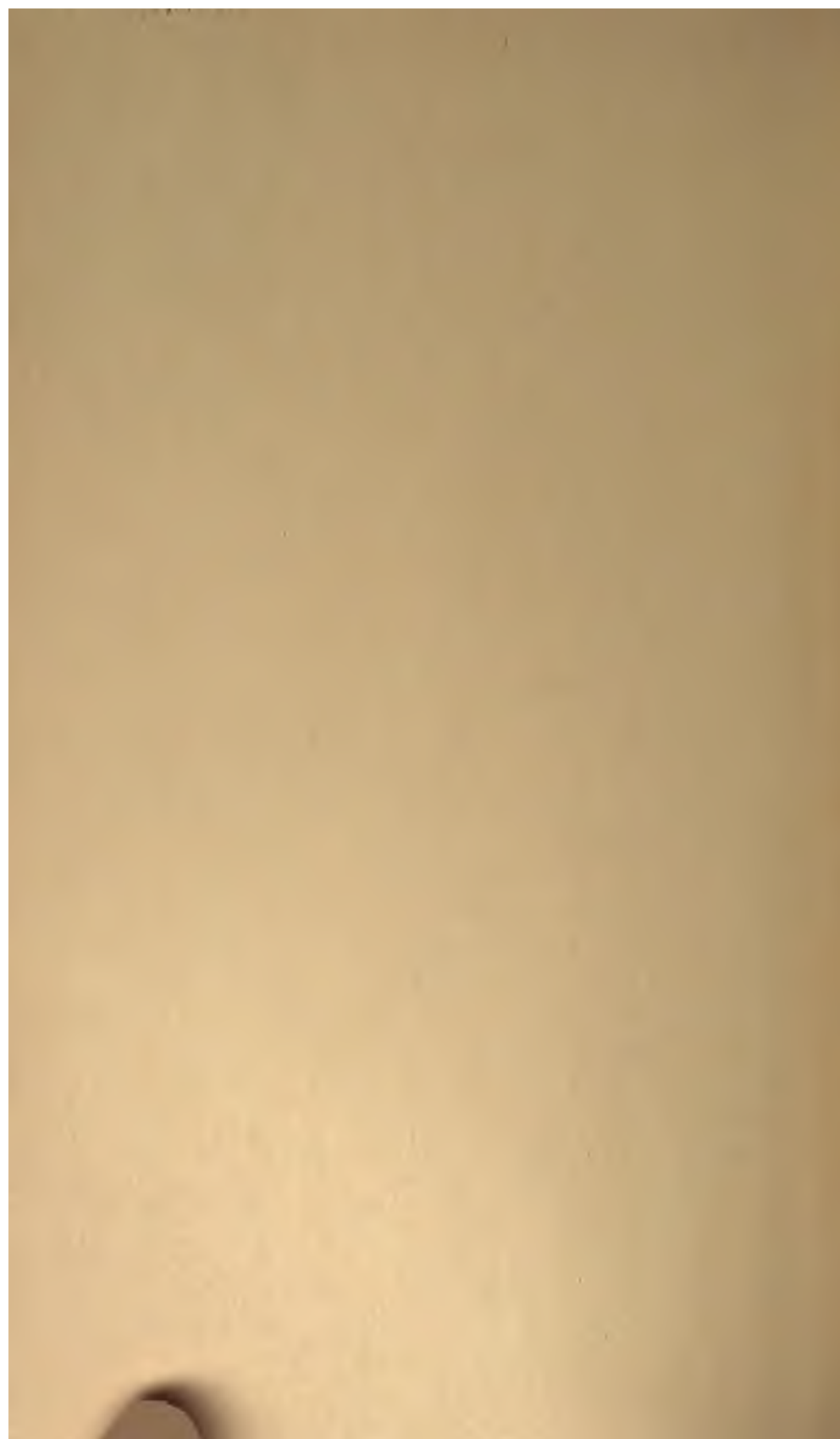
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Revista de la Real Academia de Ciencias Exactas Físicas y Naturales de Madrid. Tomo I. Numero 8. Madrid: Imprenta de la Gaceta de Madrid, 1904.

Field Columbian Museum Publication No. 84. Anthropological Series, Vol. VI., No. 1. "The Oraibi Oagol Ceremony" by H. R. Voth; "The Stanley McCormick Hopi Expedition" by George A. Dorsey; "The Oraibi Soyal Ceremony" by George A. Dorsey and H. R. Voth.

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